



WILLIAM A. BELL, SR.  
MAYOR

# CITY OF BIRMINGHAM

FINANCE DEPARTMENT

## PURCHASING DIVISION

P-100 CITY HALL  
710 NORTH 20TH STREET  
BIRMINGHAM, ALABAMA 35203-2227

TELEPHONE (205) 254-2265  
FAX (205) 254-2484

March 9, 2016

J. THOMAS BARNETT, JR.  
FINANCE DIRECTOR

RON NICKEL  
PURCHASING AGENT

WILLIAM E. CAFFEE  
ASSISTANT PURCHASING AGENT

### INVITATION TO BID #16-07

Sealed bids for various roadway lighting items, decorative street lighting poles, and miscellaneous parts for a period of six (6) months and month to month thereafter upon mutual agreement of both parties, for the City of Birmingham, will be received by the Purchasing Agent, Room P-100 First Floor City Hall, Birmingham, Alabama, until 2:00 p.m., April 14, 2016, at which time and place they will be publicly opened and read.

Bidders wishing to bid can download the complete solicitation including the specifications and bid forms via the internet at [www.birminghamal.gov](http://www.birminghamal.gov) (go to link titled **Bidding Opportunities**), or by visiting the Purchasing Office at the address shown above, or by calling (205) 254-2265, fax (205) 254-2484 and requesting a copy be mailed to you. Any addenda will be available on the internet. Bidder is responsible for checking the website for addenda until bid opening date. Addenda will be mailed to only those vendors who were provided a copy in person or by mail.

Bids are to be submitted on the bid form provided, and all quotations are to be f.o.b. Birmingham, Alabama delivered.

It is required for any contract exceeding \$10,000.00 that the bidder submits with his bid either a certified check, a cashier's check, or a bid bond payable to the City of Birmingham in the amount of \$500.00. In order for any bid award to be considered that exceeds \$10,000.00, it must be accompanied by an acceptable bid bond or check. Bid bond checks will be returned to all unsuccessful bidders after the formal award is made and to the successful bidder after acceptance of award. Should the successful bidder fail to accept the award, the bid bond or check shall be forfeited.


The City follows a policy of nondiscrimination. No contractor with the City should discriminate on the basis of race, sex, religion or national origin. Failure by the Vendor to carry out these requirements is a material breach of its obligations, which may result in its termination or such other remedy as the City deems appropriate.

No bid may be withdrawn for a period of sixty (60) days after the date of the bid opening.

The City reserves the right to reject any or all bids submitted in whole or part and to waive any informalities.

Bids must be submitted in a sealed envelope marked, "**SEALED BID - ROADWAY LIGHTING & STREET LIGHTING POLES - 2:00 P.M., 04/14/16.**" Bids may be hand delivered to Room P-100 1st Floor City Hall, Birmingham, Alabama, or mailed to City of Birmingham, P. O. Box 11295, Birmingham, Alabama 35202-1295. (**DO NOT MAIL BID TO ROOM P-100 1<sup>ST</sup> FLOOR CITY HALL**). However bids sent by any express carrier (Federal Express, UPS, airborne, etc.) must be mailed to 710 North 20<sup>th</sup> Street, Birmingham, AL 35203, and specify delivery to Room P-100 1<sup>st</sup> Floor City Hall.

It is the bidder's responsibility to make sure that his bid is in the possession of the Purchasing Agent on or before 2:00 p.m., April 14, 2016. Bids received after this time will not be considered.

  
W. E. Caffee, Asst. Purchasing Agent

aj  
Attachments  
B.N. 03/16/16

**SPECIFICATIONS FOR ROADWAY LIGHTING, DECORATIVE  
STREET LIGHTING POLES AND MISCELLANEOUS PARTS**

**GENERAL:**

The City of Birmingham is seeking bids for the supply of roadway lighting, street lighting poles, and miscellaneous parts. The basis of this contract is for the supply of any and all herein described items the City may require during the life of this contract. The City intends to award to the lowest priced, responsible responsive bidder on an individual line item basis. The City has no historical usage for these items; therefore, bids are to be submitted based on a quantity of one for all items. The City makes not guarantee as to the quantity to be purchased for any item bid. Purchase orders will be issued on an as needed basis for all items awarded. For the purchase of personal property, the City's policy is to apply a local preference option, as allowed by State of Alabama Code, Section 41-16-50, in determining the low bidder.

**Municipalities are not liable for sales tax: reference Code of Alabama Section 40-23-4. Costs normally considered pass through costs (property tax, use tax, delivery charge, etc.) to the customer by the provider must be included in any fee proposed (Code of Alabama Section 40-12-222).**

**Bidders are required to provide an original and two (2) copies of the bid.**

**No bid may be withdrawn for a period of sixty (60) days after the date of the bid opening.**

The proposed contract shall extend for a minimum time frame of six (6) months, with a month to month extension thereafter, at the prices originally bid, upon mutual agreement of both parties. This extension phase is not to exceed thirty (30) months. Prior to the end of the initial contract term or during any extension phase of this contract, the successful bidder(s) shall give the City an advanced thirty (30) days written notice if they wish to terminate the contract. During the extension phase of the contract should any product bid have a manufacturer's price increase which applies across the board to all sales of the product, the City will allow the bidder to increase the bid price by the exact dollar amount of the manufacturer's price increase. Bidder must provide to the City printed documentation from the manufacturer of any such price increase at least thirty (30) days prior to implementing any increase in price. No increase in price shall be allowed during the first six (6) months of the contract. Should any product herein experience a manufacturer's price reduction during the contracted period, the City is to immediately receive the benefit of such reduction.

Failure to adhere to any or all terms, conditions and specifications as set forth in the contract may result in the immediate termination of the contract. Should termination occur, the holder of the contract may be declared a "non-responsible vendor". This declaration may result in the rejection of any future bids submitted by the vendor for a period of time to be determined by the City.

The City will issue purchase order(s) to the successful bidder for the goods and/or services (bid items) that are the subject of the bid. Unless otherwise agreed in a writing that is signed by both parties, the entire agreement between the City and the successful bidder concerning the bid items is comprised of the terms, conditions, specifications and requirements stated in (a) the contemplated purchase order(s), (b) this Invitation to Bid and Specifications and (c) your bid (collectively, the "Contract Requirements"). These writings supersede all former proposals, offers, negotiations, representations or agreements, either written or oral, concerning the provision of vendor's goods and/or services. By acceptance of the City's purchase order(s), the successful vendor agrees to abide by and perform its responsibilities related to the bid items in compliance with the Contract Requirements.

Successful bidder shall not assign this contract to any other party without prior written approval of the City of Birmingham. Contract shall not be assigned to an unsuccessful bidder who was rejected because he was not a responsive or responsible bidder.

The contract shall become effective from the date noted in the Notification of Award letter which will be mailed to the successful bidder.

Any bid that imposes a service fee or any other type of fee on any order not exceeding a minimum order quantity or minimum purchase order dollar amount will be determined a non-responsive bid and will not be considered for award. Any vendor requiring minimum call-out quantities is to indicate such on the bid form.

The City reserves the right to cancel this contract in whole or part with a written thirty (30) day notice for cause.

Bids may be solicited for any product included in this contract where an immediate need exists, including large quantities. The decision of the Purchasing Agent as to what constitutes a biddable situation shall be final and not be construed as a breach of contract.

The City's standard payment terms are Net-30 Days from acceptance. Exception may be allowed for discounted early payment, such as 2%-10, Net 30 Days. The reference date for all such discounted early payment terms will be the date the invoice is received or the date the goods are received, whichever is later. In the event of a dispute the City's records shall prevail. **The City will not consider any bids requiring C.O.D. payments.**

Any questions concerning these specifications should be addressed to the Purchasing Division, phone (205) 254-2265, fax (205) 254-2484, between the hours of 8:00 a.m. and 4:00 p.m. CDST, Monday through Friday.

Vendor (and its employees, agents and any subcontractors) shall not discriminate on the basis of race, color, national origin, or sex in the performance of the services contemplated hereunder. Failure by the Vendor to carry out these requirements is a material breach of its obligations, which may result in its termination or such other remedy as the City deems appropriate.

Vendor acknowledges and agrees that, consistent with federal law and City's public policy, it will encourage disadvantaged business enterprise (DBE) participation to the extent permitted by law. A "disadvantaged business enterprise" is a for-profit small business concern (i) at least 51% owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51% of the stock is owned by one or more such individuals; and (ii) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it. In accordance with federal law, a "socially and economically disadvantaged individual" includes African-Americans, Hispanic Americans, Native Americans, Asian-Americans, women, and any additional groups designated as socially and economically disadvantaged by the Federal Small Business Administration.

Vendor shall defend, indemnify, and hold harmless the City of Birmingham, and its agents, employees and officials (hereinafter the "Indemnitees") from and against all demands, actions, damages, judgments, expenses (including but not limited to attorneys' fees, expert fees, court costs and other litigation costs), losses, and claims (including those for bodily injury, sickness, disease or death, or to injury to, destruction or loss of use of tangible property) (collectively hereinafter "Claims") by any third parties (including any employee, subcontractor or representative of the Vendor, hereafter a "Vendor Representative") that arises out of, relates to, results from, or is attributable to any of the following: (a) Vendor's performance or failure to perform its obligation hereunder; (b) any conditions in or about the work sites that the Vendor or any vendor Representative may encounter; or (c) the use or occupancy of the work site by Vendor or any Vendor Representatives. This indemnification obligation includes Claims that are caused in part by the negligence or an Indemnatee(s); provided nothing herein shall obligate Vendor to indemnify any of the Indemnitees for Claims resulting from the sole negligence or from the willful misconduct of the Indemnitees.

Contract award to purchase the equipment covered in this bid document shall be construed under and governed by the laws of the State of Alabama and each party hereto irrevocably agrees to be subject to the jurisdictions of the courts of the State of Alabama.

**Successful bidder acknowledges and agrees that the City has the right to deduct from total amount of consideration to be paid, if any, to the successful bidder under this agreement all unpaid, delinquent, or overdue license fees, taxes, fines, penalties and other amounts due the City from the successful bidder.**

**The City of Birmingham must have a copy of the successful bidder's current City of Birmingham business license prior to formal award of contract. Each bidder may submit a copy of his/her license along with his/her bid. However, bidder must provide a copy of his/her current business license no later than seven (7) working days of receipt of notice of intent to award. Failure to submit the requested information will result in the notice of intent to award being revoked.**

**Any successful bidder who is not currently set up as a vendor in the City of Birmingham vendor file will be required to submit a completed W-9 tax form prior to any award. The W-9 tax form may be submitted with your bid or no later than seven (7) working days of receipt of notice of intent to award.**

Successful Vendor (located in the State of Alabama or located outside of the State of Alabama, but employs one or more employees within the State of Alabama) represents and warrants that it does not knowingly employ, hire for employment, or continue to employ an "unauthorized alien", as defined by the Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535 (H.B.56) of the Alabama Legislature, as amended from time to time (the "Act") and that, during the performance of this contract, Vendor shall participate in the E-Verify program as required under the term of the Act. Vendor agrees to comply with all applicable provisions of the Act. As a condition for the award of any contract, Vendor shall provide documentation establishing that the Vendor is enrolled in the E-Verify program, or a signed, written statement that the Vendor does not have a presence (one or more employees) in the State of Alabama. Vendor may submit applicable documentation with his/her bid or no later than seven (7) working days of receipt of notice of intent to award. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the contract/agreement and shall be responsible for all damages resulting therefrom.

The manufacturer, model and/or series of each item listed reflects what the City has bought and has in use at the present time. Some items are somewhat unique in appearance, style and/or functionality and replacement items will need to match other existing items of the same kind in certain areas. For any item specified that has been discontinued, bidder should offer the manufacturer's proposed

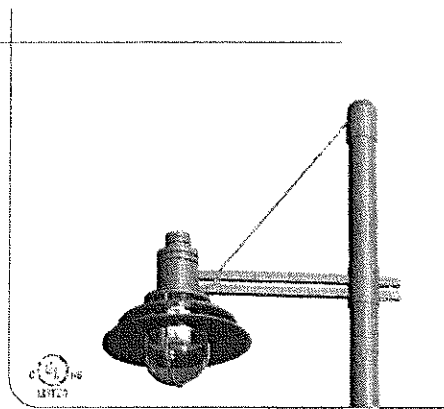
substitute or closest match available. The City will consider manufacturers of brands other than those specified as long as they are comparable in appearance, quality, functionality, design and/or any other features, normally considered of a critical nature for the specific item being bid.

Any bid submitted must be accompanied by catalogs, brochures, detailed specification sheets, photometric details and/or any other descriptive information normally considered critical in the evaluation of the item being bid. The City may require a sample of any item being bid. Bidder must be willing to provide the sample within a mutually agreed upon time frame determined at time of the request to provide. Any sample submitted may be subject to destructive testing in its evaluation.

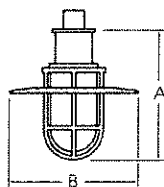
Each bidder is responsible for all costs involved in the preparation of the bid, providing any sample requested, including transportation to and from the City site and any other costs incurred by the bidder during the bid and evaluation process

# HID lighting D813

Decorative Outdoor Luminaire



Dimensions



	Size = 10	Size = 20
A	20"	28"
B	16"	28"
Max Watts	100W	250W
EPA	2.0	2.4

## ORDERING INFORMATION:

Example: (D813-20-250-advise-M-T5-1-AA14-GY-WSF)

D813	20	250	advise	M	T5	1	AA14	GY	WSF
Series	Size	Lamp Source		Lamp Type		Mounting	Arm	Color	Options
Decorative Outdoor Luminaire	10 - 16" Dia. 20 - 28" Dia.	35 - 35W <sup>1</sup> 50 - 50W <sup>2</sup> 70 - 70W 100 - 100W 150 - 150W 175 - 175W <sup>3</sup> 250 - 250W		M - Metal Halide S - High Pressure Sodium SMH - Super Metal Halide		1 - 2 - 2L - 3T - 3Y - 4 - 1W - Other O - Consult Factory	See arm details on page 2	BK - Black GR - Green WH - White DB - Dark Bronze <sup>4</sup> SL - Silver GY - Gray BU - Blue VP - Verde Patina CC - Custom	WSF - Wired Single Fuse <sup>5</sup> WDF - Wired Double Fuse <sup>5</sup> LP - Lamp Included IS - Internal Shield PC - Photocell <sup>6</sup> QR - Quartz restrike FV - International Ballast MT - Multi-tap Transformer DS - Double Shade TS - Triple Shade BD - Base Down Configuration WR - White Reflective
			<b>Voltage</b>		<b>Optics</b>				
			2 - 120V 0 - 208V 4 - 240V 7 - 277V 3 - 347V <sup>7</sup> 8 - 480V <sup>8</sup>		T3 - Type III T5 - Type V				

<sup>1</sup> Standard color for this fixture

<sup>2</sup> Contact factory for custom finishes

<sup>3</sup> Please specify voltage (eg. 120V)

<sup>4</sup> 175W lamp not available in HPS

<sup>5</sup> Not available in multi-tap

<sup>6</sup> Only available in 120V or 277V

## Job Information

Type: Y1

Catalog #: D81320250xxxSMHT51GYWSFLP AA14

Project: Parkside Ballpark Street Lighting Alts

Comments:

Prepared by: H & H Prescott

## Application

The D813 Decorative Outdoor Luminaire sets the standard in flexibility for architectural area lighting. Traditional shape, rugged, heavy-gauge, spun aluminium housing, and fully gasketed for weathertight integrity. Standard finish is dark bronze, but other architectural colors are available. The Decorative Outdoor luminaire offers unparalleled variety in one family of fixtures. Ideal for streets, parking lots, and surrounding areas. U.L. listed and CSA certified for wet locations.

## Features

- Heavy duty cast and spun aluminum with fabricated aluminum bar construction.
- Standard base-up mounting; available modified with base-down mounting.
- One-shade configuration is standard; two and three shades available. Three shade option only available in base-down configuration.
- Underside of shade available in reflective white.
- Clear, impact-resistant acrylic lens with glass refractor. Available in Type III and Type V.
- All ballasts are CWA/HPF regulating auto-transformers, available in MH and HPS. Starting temperature for MH is -20°F and HPS starts at -40°F. Sources of 50W or less are available at 120V or 277V only.
- Maximum wattage is 250W.
- Glazed porcelain, mogul or medium base, rated to 600V.
- Standard color is bronze; also available in black and white. Contact factory for custom finishes.

HID Lighting

D E C O

TM

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120V

120V

120V

120V

120V

120V

120V

120V

120V

**Type "A" Standard 40 Watt LED Post Top  
Luminaire Specification**

**Architectural Outdoor 40 Watt LED Post Top Luminaire - Type "A" Standard**

**LED Wattage/Delivered Lumens:** Fixture shall be 40 Watts with a drive current of 215mA and provide 3,662 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be acceptable.**

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Post Top Holophane Granville Utility in size and shape. Fixture shall be 34" tall, 13" diameter. **Fixtures with housing and/or optic that do not match the shape, style and dimensions of the installed Birmingham Standard Post Top Type "A" Standard are not acceptable.**

**Optical Assembly:** Is to be molded thermal resistant, non-yellowing borosilicate glass reflector and refractor. The upper portion is to incorporate a series of reflecting prisms that redirect over 50% of the upward light into the controlling refractor while allowing a soft up-light component to define the traditional acorn shape. The lower portion is to use molded refracting prisms to control the distribution of light to maximize utilization, uniformity, and Luminaire spacing. There shall be no Ribs or Bands. The Optical assembly is to be IES Type III distribution. **Plastic Optics are not acceptable. Luminaires that use internal optics are not acceptable.**

**Luminaire Housing:** Is to be Utility Fluted style cast aluminum, which cradles the LED optical assembly, and provide an enclosure for the driver assembly. The slip-fitter is to accept a 3-inch high by 2 $\frac{7}{8}$  inch to 3 $\frac{1}{8}$  inch O.D. pipe tenon. Optics are to be secured by four stainless steel clips enclosed in clear polyvinyl chloride sleeves to prevent damage to optics and shall be adjustable via four stainless steel  $\frac{1}{4}$ -20 bolts.

**Electrical Assembly Access:** The electrical assembly shall be accessed through a tool-less entry door in the housing.

**Electrical Module:** The electrical components are to be mounted on an aluminum plate that are removable without the use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. If photoelectric operation is required, the electrical module is provided with an E.E. I, -N.E.M.A. twist lock photocell receptacle. All electrical components shall have a five (5) year warranty.

**LED's:** Luminaires are to use "Chip on Board" multi-die LED technology to facilitate design to provide an optimized light source in an optimized light center position. LED's shall be 4000K correlated color temperature.

**LED Life Projection:** Luminaire shall provide L70 LED life of >100,000 hours at 40° C.

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. **Luminaire driver shall not use "thermal cutback" to manage heat to prolong life LED and driver life. Additionally, fixtures that require de-rating lumens at 40° C before calculation of lumen depreciation will not be acceptable.**

**Finish/Material:** Is to be cast alloy with #356 copper free aluminum for maximum corrosion resistance. The casting is to have a seven stage pretreatment process and finished with a polyester powder paint to insure maximum durability. All exposed hardware is to be stainless steel. Color is to be Black.

**UL Listed** and suitable for wet locations at a maximum of 40°C ambient temperature.

LED Fixture shall be at least equal in description and performance to the Holophane Granville II LED Classic Utility.

**Type "A" Standard 60 Watt LED Post Top  
Luminaire Specification**

**Architectural Outdoor 60 Watt LED Post Top Luminaire - Type "A" Standard**

**LED Wattage/Delivered Lumens:** Fixture shall be 60 Watts with a drive current of 315mA and provide 5,176 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be acceptable.**

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Post Top Holophane Granville Utility in size and shape. Fixture shall be 34" tall, 13" diameter. **Fixtures with housing and/or optic that do not match the shape, style and dimensions of the installed Birmingham Standard Post Top Type "A" Standard are not acceptable.**

**Optical Assembly:** Is to be molded thermal resistant, non-yellowing borosilicate glass reflector and refractor. The upper portion is to incorporate a series of reflecting prisms that redirect over 50% of the upward light into the controlling refractor while allowing a soft up-light component to define the traditional acorn shape. The lower portion is to use molded refracting prisms to control the distribution of light to maximize utilization, uniformity, and Luminaire spacing. There shall be no Ribs or Bands. The Optical assembly is to be IES Type III distribution. **Plastic Optics are not acceptable. Luminaires that use internal optics are not acceptable.**

**Luminaire Housing:** Is to be Utility Fluted style cast aluminum, which cradles the LED optical assembly, and provide an enclosure for the driver assembly. The slip-fitter is to accept a 3-inch high by 2 $\frac{1}{8}$  inch to 3 $\frac{1}{8}$  inch O.D. pipe tenon. Optics are to be secured by four stainless steel clips enclosed in clear polyvinyl chloride sleeves to prevent damage to optics and shall be adjustable via four stainless steel  $\frac{1}{4}$ -20 bolts.

**Electrical Assembly Access:** The electrical assembly shall be accessed through a tool-less entry door in the housing.

**Electrical Module:** The electrical components are to be mounted on an aluminum plate that are removable without the use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. If photoelectric operation is required, the electrical module is provided with an E.E. I, -N.E.M.A. twist lock photocell receptacle. All electrical components shall have a five (5) year warranty.

**LED's:** Luminaires are to use "Chip on Board" multi-die LED technology to facilitate design to provide an optimized light source in an optimized light center position. LED's shall be 4000K correlated color temperature.

**LED Life Projection:** Luminaire shall provide L70 LED life of >100,000 hours at 40° C.

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. **Luminaire driver shall not use "thermal cutback" to manage heat to prolong life LED and driver life. Additionally, fixtures that require de-rating lumens at 40° C before calculation of lumen depreciation will not be acceptable.**

**Finish/Material:** Is to be cast alloy with #356 copper free aluminum for maximum corrosion resistance. The casting is to have a seven stage pretreatment process and finished with a polyester powder paint to insure maximum durability. All exposed hardware is to be stainless steel. Color is to be Black.

**UL Listed** and suitable for wet locations at a maximum of 40° C ambient temperature.

LED Fixture shall be at least equal in description and performance to the Holophane Granville II LED Classic Utility.

**Type "A" Large 60 Watt LED Post Top  
Luminaire Specification**

**Architectural Outdoor 60 Watt LED Post Top Luminaire - Type "A" Large**

**LED Wattage/Delivered Lumens:** Fixture shall be 60 Watts with a drive current of 315mA and provide 5,176 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be acceptable.**

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Post Top Holophane Granville Premier LED in size and shape. Fixture shall be 39¼" tall, 15¼" diameter. **Fixtures with housing and/or optic that do not match the shape, style and dimensions of the installed Birmingham Standard Post Top Type "A" Large are not acceptable.**

**Optical Assembly:** Is to be molded thermal resistant, non-yellowing borosilicate glass reflector and refractor. The upper portion is to incorporate a series of reflecting prisms that redirect over 50% of the upward light into the controlling refractor while allowing a soft up-light component to define the traditional acorn shape. The lower portion is to use molded refracting prisms to control the distribution of light to maximize utilization, uniformity, and Luminaire spacing. There shall be no Ribs or Bands. The Optical assembly is to be IES Type III distribution. **Plastic Optics are not acceptable. Luminaires that use internal optics are not acceptable.**

**Luminaire Housing:** Is to be Utility Fluted style cast aluminum, which cradles the LED optical assembly, and provide an enclosure for the driver assembly. The slip-fitter is to accept a 3-inch high by 2⅞ inch to 3⅜ inch O.D. pipe tenon. Optics are to be secured by four stainless steel clips enclosed in clear polyvinyl chloride sleeves to prevent damage to optics and shall be adjustable via four stainless steel ¼-20 bolts.

**Electrical Assembly Access:** The electrical assembly shall be accessed through a tool-less entry door in the housing.

**Electrical Module:** The electrical components are to be mounted on an aluminum plate that are removable without the use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. If photoelectric operation is required, the electrical module is provided with an E.E. I, -N.E.M.A. twist lock photocell receptacle. All electrical components shall have a five (5) year warranty.

**LED's:** Luminaires are to use "Chip on Board" multi-die LED technology to facilitate design to provide an optimized light source in an optimized light center position. LED's shall be 4000K correlated color temperature.

**LED Life Projection:** Luminaire shall provide L70 LED life of >100,000 hours at 40° C.

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. **Luminaire driver shall not use "thermal cutback" to manage heat to prolong life LED and driver life. Additionally, fixtures that require de-rating lumens at 40° C before calculation of lumen depreciation will not be acceptable.**

**Finish/Material:** Is to be cast alloy with #356 copper free aluminum for maximum corrosion resistance. The casting is to have a seven stage pretreatment process and finished with a polyester powder paint to insure maximum durability. All exposed hardware is to be stainless steel. Color is to be Black.

**UL Listed** and suitable for wet locations at a maximum of 40°C ambient temperature.

LED Fixture shall be at least equal in description and performance to the Holophane Granville Premier LED.



**Type “A” Standard 60 Watt LED Post Top Luminaire  
with Decorative Ribs and Band Specification**

**Architectural Outdoor 60 Watt LED Post Top Luminaire - Type “A” Standard with Ribs and Band**

**LED Wattage/Delivered Lumens:** Fixture shall be 60 Watts with a drive current of 315mA and provide 5,176 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be acceptable.**

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Post Top Holophane Granville Utility in size and shape. Fixture shall be 34” tall, 13” diameter. **Fixtures with housing and/or optic that do not match the shape, style and dimensions of the installed Birmingham Standard Post Top Type “A” Standard are not acceptable.**

**Optical Assembly:** Is to be molded thermal resistant, non-yellowing borosilicate glass reflector and refractor. The upper portion is to incorporate a series of reflecting prisms that redirect over 50% of the upward light into the controlling refractor while allowing a soft up-light component to define the traditional acorn shape. The lower portion is to use molded refracting prisms to control the distribution of light to maximize utilization, uniformity, and Luminaire spacing. There shall be no Ribs or Bands. The Optical assembly is to be IES Type III distribution. **Plastic Optics are not acceptable. Luminaires that use internal optics are not acceptable.**

**Luminaire Housing:** Is to be Utility Fluted style cast aluminum, which cradles the LED optical assembly, and provide an enclosure for the driver assembly. The slip-fitter is to accept a 3-inch high by 2 $\frac{1}{8}$  inch to 3 $\frac{1}{2}$  inch O.D. pipe tenon. Optics are to be secured by four stainless steel clips enclosed in clear polyvinyl chloride sleeves to prevent damage to optics and shall be adjustable via four stainless steel  $\frac{1}{4}$ -20 bolts.

**Rib & Band Assembly:** Is to include four (4) decorative vertical loop ribs spaced 90° apart which are connected to and support a horizontal decorative band.

**Electrical Assembly Access:** The electrical assembly shall be accessed through a tool-less entry door in the housing.

**Electrical Module:** The electrical components are to be mounted on an aluminum plate that are removable without the use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. If photoelectric operation is required, the electrical module is provided with an E.E. I, -N.E.M.A. twist lock photocell receptacle. All electrical components shall have a five (5) year warranty.

**LED's:** Luminaires are to use “Chip on Board” multi-die LED technology to facilitate design to provide an optimized light source in an optimized light center position. LED's shall be 4000K correlated color temperature.

**LED Life Projection:** Luminaire shall provide L70 LED life of >100,000 hours at 40° C.

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. **Luminaire driver shall not use “thermal cutback” to manage heat to prolong life LED and driver life. Additionally, fixtures that require de-rating lumens at 40° C before calculation of lumen depreciation will not be acceptable.**

**Finish/Material:** Is to be cast alloy with #356 copper free aluminum for maximum corrosion resistance. The casting is to have a seven stage pretreatment process and finished with a polyester powder paint to insure maximum durability. All exposed hardware is to be stainless steel. Color is to be Black.

**UL Listed** and suitable for wet locations at a maximum of 40° C ambient temperature.

LED Fixture shall be at least equal in description and performance to the Holophane Granville II LED Classic Utility.

**Standard 77 Watt LED Pedestrian  
Teardrop Luminaire Specification**

**Architectural Outdoor LED Pedestrian Teardrop Fixture**

**LED Wattage/Delivered Lumens:** Fixture shall be 77 Watts with a drive current of 700mA and provide 6,551 Minimum Delivered Lumens at 4000K CCT. Fixtures that do not meet wattage and minimum delivered lumen criteria will not be accepted.

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Roadway Teardrop Style in size and shape. It shall be 26" tall, 12" diameter. **Luminaires that do not match these dimensions will not be acceptable.**

**Wiring Chamber:** The wiring chamber shall have a 1½", gasketed, NPT threaded entry for pendant mounting or a welded stem. The stem aides in installation speed. A stainless steel set screw locks the unit into position. A three station terminal block will accept #14 through #2 wires and is prewired to one half of the plug assembly that connects to a removable electrical module. The wiring chamber shall be sealed from the electrical/reflector assembly so as not to allow ingress of water or moisture.

**Electrical/Reflector Assembly:** The unitized electrical assembly, composed of the electronic driver, surge protection device, and other selected components is mounted on a removable tray. The assembly is easily accessible by loosening the optical wing nut and opening the optical door. The disconnect plug connects the driver to the terminal block located in the upper housing wiring chamber. On the underside of the electrical assembly facing downward is the LED module, which is sealed to the door assembly cradling the glass lens.

**LED Module/ Refractor Door Assembly:** The cast aluminum door cradles a tear drop, thermal resistant borosilicate glass refractor that controls the light to provide an IES Type IV asymmetric cutoff distribution. **Plastic optics are not acceptable.** The refractor assembly hinges from the electrical housing and is latched by a corrosion resistant, captive, wing nut assembly. The unique beveled latch insures the optical door is securely held even if the wing nut is not fully tightened. There are three COB (Chip on Board) LED's mounted to an aluminum heatsink for optimum thermal operating characteristics. The LED's are covered and sealed by individual borosilicate glass lens', designed to provide the appropriate asymmetric distribution in conjunction with the main teardrop refractor. **Luminaires that do not provide tool-less entry into the optical chamber are not acceptable.**

**LED Life Projection:** Luminaire shall provide minimum L70 LED life of >100,000 hours at 25° C. **Luminaires that cannot provide L70 LED life of >100,000 hours at 25° C are not acceptable.**

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. Luminaire driver shall not use "thermal cutback" to manage heat to prolong life LED and driver life. **Additionally, fixtures that require de-rating lumens at ambient temperatures above 25° C before calculation of lumen depreciation will not be acceptable.**

**Finish/Material:** The luminaire is finished with polyester powder paint applied after a seven stage pretreatment process to insure maximum durability. All castings utilize alloy #356 copper free aluminum for maximum corrosion resistance and all exposed hardware is stainless steel. The color is to be black.

**CSA LISTING:**

The Luminaire is CSA listed suitable for wet locations up to 40° C for the 77W version. **Luminaires that cannot be documented to provide a CSA listing of 40° C shall not be acceptable.**

LED fixture shall be at least equal in description and performance to the Holophane Pedestrian Esplanade LED.

**Type "A" Standard 80 Watt LED  
Post Top Luminaire Specification**

**Architectural Outdoor 80 Watt LED Post Top Luminaire - Type "A" Standard**

**LED Wattage/Delivered Lumens:** Fixture shall be 80 Watts with a drive current of 400mA and provide 6,509 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be acceptable.**

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Post Top Holophane Granville Utility in size and shape. Fixture shall be 34" tall, 13" diameter. **Fixtures with housing and/or optic that do not match the shape, style and dimensions of the installed Birmingham Standard Post Top Type "A" Standard are not acceptable.**

**Optical Assembly:** Is to be molded thermal resistant, non-yellowing borosilicate glass reflector and refractor. The upper portion is to incorporate a series of reflecting prisms that redirect over 50% of the upward light into the controlling refractor while allowing a soft up-light component to define the traditional acorn shape. The lower portion is to use molded refracting prisms to control the distribution of light to maximize utilization, uniformity, and Luminaire spacing. There shall be no Ribs or Bands. The Optical assembly is to be IES Type III distribution. **Plastic Optics are not acceptable. Luminaires that use internal optics are not acceptable.**

**Luminaire Housing:** Is to be Utility Fluted style cast aluminum, which cradles the LED optical assembly, and provide an enclosure for the driver assembly. The slip-fitter is to accept a 3-inch high by 2 $\frac{1}{2}$  inch to 3 $\frac{1}{2}$  inch O.D. pipe tenon. Optics are to be secured by four stainless steel clips enclosed in clear polyvinyl chloride sleeves to prevent damage to optics and shall be adjustable via four stainless steel  $\frac{1}{4}$ -20 bolts.

**Electrical Assembly Access:** The electrical assembly shall be accessed through a tool-less entry door in the housing.

**Electrical Module:** The electrical components are to be mounted on an aluminum plate that are removable without the use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. If photoelectric operation is required, the electrical module is provided with an E.E. I, -N.E.M.A. twist lock photocell receptacle. All electrical components shall have a five (5) year warranty.

**LED's:** Luminaires are to use "Chip on Board" multi-die LED technology to facilitate design to provide an optimized light source in an optimized light center position. LED's shall be 4000K correlated color temperature.

**LED Life Projection:** Luminaire shall provide L70 LED life of >100,000 hours at 40° C.

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. **Luminaire driver shall not use "thermal cutback" to manage heat to prolong life LED and driver life. Additionally, fixtures that require de-rating lumens at 40° C before calculation of lumen depreciation will not be acceptable.**

**Finish/Material:** Is to be cast alloy with #356 copper free aluminum for maximum corrosion resistance. The casting is to have a seven stage pretreatment process and finished with a polyester powder paint to insure maximum durability. All exposed hardware is to be stainless steel. Color is to be Black.

**UL Listed** and suitable for wet locations at a maximum of 40° C ambient temperature.

LED Fixture shall be at least equal in description and performance to the Holophane Granville II LED Classic Utility.

**Type "A" Large 80 Watt LED  
Post Top Luminaire Specification**

**Architectural Outdoor 80 Watt LED Post Top Luminaire - Type "A" Large**

**LED Wattage/Delivered Lumens:** Fixture shall be 80 Watts with a drive current of 400mA and provide 6,509 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be acceptable.**

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Post Top Holophane Granville Premier LED in size and shape. Fixture shall be 39¼" tall, 15¼" diameter. **Fixtures with housing and/or optic that do not match the shape, style and dimensions of the installed Birmingham Standard Post Top Type "A" Large are not acceptable.**

**Optical Assembly:** Is to be molded thermal resistant, non-yellowing borosilicate glass reflector and refractor. The upper portion is to incorporate a series of reflecting prisms that redirect over 50% of the upward light into the controlling refractor while allowing a soft up-light component to define the traditional acorn shape. The lower portion is to use molded refracting prisms to control the distribution of light to maximize utilization, uniformity, and Luminaire spacing. There shall be no Ribs or Bands. The Optical assembly is to be IES Type III distribution. **Plastic Optics are not acceptable. Luminaires that use internal optics are not acceptable.**

**Luminaire Housing:** Is to be Utility Fluted style cast aluminum, which cradles the LED optical assembly, and provide an enclosure for the driver assembly. The slip-fitter is to accept a 3-inch high by 2⅞ inch to 3⅛ inch O.D. pipe tenon. Optics are to be secured by four stainless steel clips enclosed in clear polyvinyl chloride sleeves to prevent damage to optics and shall be adjustable via four stainless steel ¼-20 bolts.

**Electrical Assembly Access:** The electrical assembly shall be accessed through a tool-less entry door in the housing.

**Electrical Module:** The electrical components are to be mounted on an aluminum plate that are removable without the use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. If photoelectric operation is required, the electrical module is provided with an E.E. I, -N.E.M.A. twist lock photocell receptacle. All electrical components shall have a five (5) year warranty.

**LED's:** Luminaires are to use "Chip on Board" multi-die LED technology to facilitate design to provide an optimized light source in an optimized light center position. LED's shall be 4000K correlated color temperature.

**LED Life Projection:** Luminaire shall provide L70 LED life of >100,000 hours at 40° C.

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. **Luminaire driver shall not use "thermal cutback" to manage heat to prolong life LED and driver life. Additionally, fixtures that require de-rating lumens at 40° C before calculation of lumen depreciation will not be acceptable.**

**Finish/Material:** Is to be cast alloy with #356 copper free aluminum for maximum corrosion resistance. The casting is to have a seven stage pretreatment process and finished with a polyester powder paint to insure maximum durability. All exposed hardware is to be stainless steel. Color is to be Black.

**UL Listed** and suitable for wet locations at a maximum of 40° C ambient temperature.

LED Fixture shall be at least equal in description and performance to the Holophane Granville Premier LED.

**Type “B” 80 Watt LED Post Top  
Luminaire Specification**

**Architectural Outdoor Type 80 Watt LED Post Top Luminaire Type “B”**

**LED Wattage/Delivered Lumens:** Fixture shall be 80 Watts with a drive current of 400mA and provide 7,262 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be accepted.**

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Post Top Holophane Washington in size and shape. Fixture shall be 43<sup>15/16</sup>” tall, 17¼” diameter. **Fixtures with housing and/or optic that do not match the shape, style and dimensions of the installed Birmingham Standard Post Top Type “B” are not acceptable.**

**Optical Assembly:** Is to be molded thermal resistant, non-yellowing borosilicate glass reflector and refractor. The upper portion is to incorporate a series of reflecting prisms that redirect over 50% of the upward light into the controlling refractor while allowing a soft up-light component to define the traditional acorn shape. The lower portion is to use molded refracting prisms to control the distribution of light to maximize utilization, uniformity, and Luminaire spacing. There shall be no Ribs or Bands. The Optical assembly is to be IES Type III distribution. **Plastic Optics are not acceptable. Luminaires that use internal optics are not acceptable.**

**Luminaire Housing:** Is to be Utility Fluted style cast aluminum, which cradles the LED optical assembly, and provide an enclosure for the driver assembly. The slip-fitter is to accept a 3-inch high by 2⅞ inch to 3¼ inch O.D. pipe tenon. Optics are to be secured by four stainless steel clips enclosed in clear polyvinyl chloride sleeves to prevent damage to optics and shall be adjustable via four stainless steel ¼-20 bolts.

**Electrical Assembly Access:** The electrical assembly shall be accessed through a tool-less entry door in the housing.

**Electrical Module:** The electrical components are to be mounted on an aluminum plate that are removable without the use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. If photoelectric operation is required, the electrical module is provided with an E.E. I, -N.E.M.A. twist lock photocell receptacle. All electrical components shall have a five (5) year warranty.

**LED’s:** Luminaires are to use “Chip on Board” multi-die LED technology to facilitate design to provide an optimized light source in an optimized light center position. LED’s shall be 4000K correlated color temperature.

**LED Life Projection:** Luminaire shall provide L70 LED life of >100,000 hours at 40° C.

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. **Luminaire driver shall not use “thermal cutback” to manage heat to prolong life LED and driver life. Additionally, fixtures that require de-rating lumens at 40° C before calculation of lumen depreciation will not be acceptable.**

**Finish/Material:** Is to be cast alloy with #356 copper free aluminum for maximum corrosion resistance. The casting is to have a seven stage pretreatment process and finished with a polyester powder paint to insure maximum durability. All exposed hardware is to be stainless steel. Color is to be Black.

**UL Listed** and suitable for wet locations at a maximum of 40° C ambient temperature.

LED Fixture shall be at least equal in description and performance to the Holophane Utility Washington LED.

**Type “A” Large 100 Watt LED  
Post Top Luminaire Specification**

**Architectural Outdoor 100 Watt LED Post Top Luminaire - Type “A” Large**

**LED Wattage/Delivered Lumens:** Fixture shall be 100 Watts with a drive current of 525mA and provide 7,360 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be acceptable.**

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Post Top Holophane Granville Premier LED in size and shape. Fixture shall be 39¼” tall, 15¼” diameter. **Fixtures with housing and/or optic that do not match the shape, style and dimensions of the installed Birmingham Standard Post Top Type “A” Large are not acceptable.**

**Optical Assembly:** Is to be molded thermal resistant, non-yellowing borosilicate glass reflector and refractor. The upper portion is to incorporate a series of reflecting prisms that redirect over 50% of the upward light into the controlling refractor while allowing a soft up-light component to define the traditional acorn shape. The lower portion is to use molded refracting prisms to control the distribution of light to maximize utilization, uniformity, and Luminaire spacing. There shall be no Ribs or Bands. The Optical assembly is to be IES Type III distribution. **Plastic Optics are not acceptable. Luminaires that use internal optics are not acceptable.**

**Luminaire Housing:** Is to be Utility Fluted style cast aluminum, which cradles the LED optical assembly, and provide an enclosure for the driver assembly. The slip-fitter is to accept a 3-inch high by 2⅞ inch to 3¼ inch O.D. pipe tenon. Optics are to be secured by four stainless steel clips enclosed in clear polyvinyl chloride sleeves to prevent damage to optics and shall be adjustable via four stainless steel ¼-20 bolts.

**Electrical Assembly Access:** The electrical assembly shall be accessed through a tool-less entry door in the housing.

**Electrical Module:** The electrical components are to be mounted on an aluminum plate that are removable without the use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. If photoelectric operation is required, the electrical module is provided with an E.E. I, -N.E.M.A. twist lock photocell receptacle. All electrical components shall have a five (5) year warranty.

**LED's:** Luminaires are to use “Chip on Board” multi-die LED technology to facilitate design to provide an optimized light source in an optimized light center position. LED's shall be 4000K correlated color temperature.

**LED Life Projection:** Luminaire shall provide L70 LED life of >100,000 hours at 40° C.

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. **Luminaire driver shall not use “thermal cutback” to manage heat to prolong life LED and driver life. Additionally, fixtures that require de-rating lumens at 40° C before calculation of lumen depreciation will not be acceptable.**

**Finish/Material:** Is to be cast alloy with #356 copper free aluminum for maximum corrosion resistance. The casting is to have a seven stage pretreatment process and finished with a polyester powder paint to insure maximum durability. All exposed hardware is to be stainless steel. Color is to be Black.

**UL Listed** and suitable for wet locations at a maximum of 40° C ambient temperature.

LED Fixture shall be at least equal in description and performance to the Holophane Granville Premier LED.

**Type “B” 100 Watt LED Post Top  
Luminaire Specification**

**Architectural Outdoor Type 100 Watt LED Post Top Luminaire Type “B”**

**LED Wattage/Delivered Lumens:** Fixture shall be 100 Watts with a drive current of 525mA and provide 8,218 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be accepted.**

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Post Top Holophane Washington in size and shape. Fixture shall be 43<sup>15/16</sup>” tall, 17¼” diameter. **Fixtures with housing and/or optic that do not match the shape, style and dimensions of the installed Birmingham Standard Post Top Type “B” are not acceptable.**

**Optical Assembly:** Is to be molded thermal resistant, non-yellowing borosilicate glass reflector and refractor. The upper portion is to incorporate a series of reflecting prisms that redirect over 50% of the upward light into the controlling refractor while allowing a soft up-light component to define the traditional acorn shape. The lower portion is to use molded refracting prisms to control the distribution of light to maximize utilization, uniformity, and Luminaire spacing. There shall be no Ribs or Bands. The Optical assembly is to be IES Type III distribution. **Plastic Optics are not acceptable. Luminaires that use internal optics are not acceptable.**

**Luminaire Housing:** Is to be Utility Fluted style cast aluminum, which cradles the LED optical assembly, and provide an enclosure for the driver assembly. The slip-fitter is to accept a 3-inch high by 2⅞ inch to 3⅛ inch O.D. pipe tenon. Optics are to be secured by four stainless steel clips enclosed in clear polyvinyl chloride sleeves to prevent damage to optics and shall be adjustable via four stainless steel ¼-20 bolts.

**Electrical Assembly Access:** The electrical assembly shall be accessed through a tool-less entry door in the housing.

**Electrical Module:** The electrical components are to be mounted on an aluminum plate that are removable without the use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. If photoelectric operation is required, the electrical module is provided with an E.E. I, -N.E.M.A. twist lock photocell receptacle. All electrical components shall have a five (5) year warranty.

**LED’s:** Luminaires are to use “Chip on Board” multi-die LED technology to facilitate design to provide an optimized light source in an optimized light center position. LED’s shall be 4000K correlated color temperature.

**LED Life Projection:** Luminaire shall provide L70 LED life of >100,000 hours at 40° C.

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. **Luminaire driver shall not use “thermal cutback” to manage heat to prolong life LED and driver life. Additionally, fixtures that require de-rating lumens at 40° C before calculation of lumen depreciation will not be acceptable.**

**Finish/Material:** Is to be cast alloy with #356 copper free aluminum for maximum corrosion resistance. The casting is to have a seven stage pretreatment process and finished with a polyester powder paint to insure maximum durability. All exposed hardware is to be stainless steel. Color is to be Black.

**UL Listed** and suitable for wet locations at a maximum of 40° C ambient temperature.

LED Fixture shall be at least equal in description and performance to the Holophane Utility Washington LED.

**Standard 115 Watt LED Pedestrian  
Teardrop Luminaire Specification**

**Architectural Outdoor LED Pedestrian Teardrop Fixture**

**LED Wattage/Delivered Lumens:** Fixture shall be 115 Watts with a drive current of 1050mA and provide 8,395 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be accepted.**

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Roadway Teardrop Style in size and shape. It shall be 26" tall, 12" diameter. **Luminaires that do not match these dimensions will not be acceptable.**

**Wiring Chamber:** The wiring chamber shall have a 1½", gasketed, NPT threaded entry for pendant mounting or a welded stem. The stem aides in installation speed. A stainless steel set screw locks the unit into position. A three station terminal block will accept #14 through #2 wires and is prewired to one half of the plug assembly that connects to a removable electrical module. The wiring chamber shall be sealed from the electrical/reflector assembly so as not to allow ingress of water or moisture.

**Electrical/Reflector Assembly:** The unitized electrical assembly, composed of the electronic driver, protection device, and other selected components is mounted on a removable tray. The assembly is easily accessible by loosening the optical wing nut and opening the optical door. The disconnect plug connects the driver to the terminal block located in the upper housing wiring chamber. On the underside of the electrical assembly facing downward is the LED module, which is sealed to the door assembly cradling the glass lens.

**LED Module/Reflector Door Assembly:** The cast aluminum door cradles a tear drop, thermal resistant borosilicate glass refractor that controls the light to provide an IES Type IV asymmetric cutoff distribution. **Plastic optics are not acceptable.** The refractor assembly hinges from the electrical housing and is latched by a corrosion resistant, captive, wing nut assembly. The unique beveled latch insures the optical door is securely held even if the wing nut is not fully tightened. There are three COB (Chip on Board) LED's mounted to an aluminum heatsink for optimum thermal operating characteristics. The LED's are covered and sealed by individual borosilicate glass lens', designed to provide the appropriate asymmetric distribution in conjunction with the main teardrop refractor. **Luminaires that do not provide tool-less entry into the optical chamber are not acceptable.**

**LED Life Projection:** Luminaire shall provide minimum L70 LED life of >100,000 hours at 25° C. **Luminaires that cannot provide L70 LED life of >100,000 hours at 25° C are not acceptable.**

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. Luminaire driver shall not use "thermal cutback" to manage heat to prolong life LED and driver life. **Additionally, fixtures that require de-rating lumens at ambient temperatures above 25° C before calculation of lumen depreciation will not be acceptable.**

**Finish/Material:** The luminaire is finished with polyester powder paint applied after a seven stage pretreatment process to insure maximum durability. All castings utilize alloy #356 copper free aluminum for maximum corrosion resistance and all exposed hardware is stainless steel. The color is to be black.

**CSA LISTING:**

The Luminaire is CSA listed suitable for wet locations up to 30° C for the 115W version. **Luminaires that cannot be documented to provide a CSA listing of 30° C shall not be acceptable.**

LED fixture shall be at least equal in description and performance to the Holophane Pedestrian Esplanade LED.



**Standard LED Roadway Teardrop  
Luminaire Specification**

**Architectural Outdoor LED Roadway Teardrop Fixture**

**LED Wattage/Delivered Lumens:** Fixture shall be 185 Watts with a drive current of 350mA and provide 14,721 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be accepted.**

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Roadway Teardrop Style in size and shape. It shall be 34" tall, 17" diameter. **Luminaires that do not match these dimensions will not be acceptable.**

**Wiring Chamber:** The wiring chamber shall have a 1½", gasketed, NPT threaded entry for pendant mounting or welding stem. The stem aides in installation speed. A stainless steel set screw locks the unit into position. A three station terminal block will accept #14 through #2 wires and is prewired to one half of the plug assembly that connects to a removable electrical module. The wiring chamber shall be sealed from the electrical/reflector assembly so as not to allow ingress of water or moisture.

**Electrical/Reflector Assembly:** The electrical/reflector assembly hinges down from the wiring chamber for ease in wiring and to facilitate the removal of the electrical module. The assembly is secured in place by a stainless steel latch. The unitized electrical module consists of the electronic driver and components mounted to an aluminum plate that is easily removed by loosening two screws in keyhole slots. The disconnect plug connects the driver to the terminal block in the wiring chamber. The anodized and brightened reflector is formed with flutes to work in conjunction with the refractor to provide the desired distribution of light.

**Refractor/Door Assembly:** The cast aluminum door cradles a tear drop, thermal resistant borosilicate glass refractor that controls the light to provide an IES Type IV asymmetric cutoff distribution. The combination of reflector, refractor and vertical burning lamp maximize efficiency and uniformity of illumination while controlling luminaire brightness. **Plastic optics are not acceptable.** The refractor assembly hinges from the electrical/reflector assembly and is latched by a stainless steel, captive, wing nut assembly. The unique beveled latch insures the optical door is securely held even if the wing nut is not fully tightened. **Luminaires that do not provide tool-less entry into the optical chamber are not acceptable.**

**LED Life Projection:** Luminaire shall provide minimum L70 LED life of >100,000 hours at 25° C. **Luminaires that cannot provide L70 LED life of >100,000 hours at 25° C are not acceptable.**

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. Luminaire driver shall not use "thermal cutback" to manage heat to prolong life LED and driver life. Additionally, fixtures that require de-rating lumens at ambient temperatures above 25° C before calculation of lumen depreciation will not be acceptable.

**Finish/Material:** The luminaire is finished with polyester powder paint applied after a seven stage pretreatment process to insure maximum durability. All castings utilize alloy #356 copper free aluminum for maximum corrosion resistance and all exposed hardware is stainless steel. The color is to be black.

**CUL/UL LISTING:**

The luminaire is CUL/UL listed and suitable for wet locations at minimum 40°C. **Luminaires that cannot be documented to provide a UL listing of 40° C shall not be acceptable.**

LED fixture shall be at least equal in description and performance to the Holophane Esplanade LED Teardrop.

**Standard LED Roadway  
Teardrop Luminaire Specification**

**Architectural Outdoor LED Roadway Teardrop Fixture**

**LED Wattage/Delivered Lumens:** Fixture shall be 242 Watts with and provide 24,667 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be accepted.**

**Shape:** Fixture will be a match to the currently installed Birmingham Standard Roadway Teardrop Style in size and shape. It shall be 34" tall, 17" diameter. **Luminaires that do not match these dimensions will not be acceptable.**

**Wiring Chamber:** The wiring chamber shall have a Quick Stem Mount Fitter or a 1½", gasketed, NPT threaded entry for pendant mounting. The stem aides in installation speed. A stainless steel set screw locks the unit into position. A three station terminal block will accept #14 through #2 wires and is prewired to one half of the plug assembly that connects to a removable electrical module. The wiring chamber shall be sealed from the electrical assembly so as not to allow ingress of water or moisture.

**Electrical/Reflector Assembly:** The electrical/reflector assembly hinges down from the wiring chamber for ease in wiring and to facilitate the removal of the electrical module. The assembly is secured in place by a stainless steel latch. The unitized electrical module consists of the electronic driver and components mounted to an aluminum plate that is easily removed by loosening two screws in keyhole slots. The disconnect plug connects the driver to the terminal block in the wiring chamber.

**Refractor/Door Assembly:** The cast aluminum door cradles a tear drop, thermal resistant borosilicate glass refractor that controls the light to provide an IES Type III asymmetric cutoff distribution. The combination of LED's and refractor maximize efficiency and uniformity of illumination while controlling luminaire brightness. **Plastic optics are not acceptable.** The refractor assembly hinges from the electrical assembly and is latched by a stainless steel, captive, wing nut assembly. The unique beveled latch insures the optical door is securely held even if the wing nut is not fully tightened. **Luminaires that do not provide tool-less entry into the optical chamber are not acceptable.**

**LED Life Projection:** Luminaire shall provide minimum L70 LED life of >100,000 hours at 25° C. **Luminaires that cannot provide L70 LED life of >100,000 hours at 25° C are not acceptable.**

**Thermal Management:** Luminaire shall be designed to provide proper thermal management. Luminaire driver shall not use "thermal cutback" to manage heat to prolong life LED and driver life. Additionally, fixtures that require de-rating lumens at ambient temperatures above 25° C before calculation of lumen depreciation will not be acceptable.

**Finish/Material:** The luminaire is finished with polyester powder paint applied after a seven stage pretreatment process to insure maximum durability. All castings utilize alloy #356 copper free aluminum for maximum corrosion resistance and all exposed hardware is stainless steel. The color is to be black.

**CSA/UL LISTING:**

The luminaire is CSA/UL listed and suitable for wet locations at minimum 25° C. **Luminaires that cannot be documented to provide a minimum CSA/UL listing of 25° C shall not be acceptable.**

LED fixture shall be at least equal in description and performance to the Holophane Esplanade LED Teardrop.

**250 Watt HPS I-20/59  
Roadway Luminaire Specification**

**Infrastructure Outdoor 250 Watt High Pressure Sodium Roadway Luminaire**

**Wattage/Delivered Lumens:** Fixture shall be 250 Watts, 480 Volt, and provide 25,000 Minimum Delivered Lumens. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be acceptable.**

**Shape:** Fixture will be a match to the currently installed ALDOT and City of Birmingham Standard Offset Roadway Luminaire in size and shape. Fixture shall be 36.8" long, 15.27" tall and 16.7" wide. **Fixture shall be the Holophane 250W HPS Mongoose Low Tilt with Wide Roadway Optics and Clear Drop Glass Optic. Specific IES file shall be IES 51844.**

**Mechanical Construction:** The housing, door and fitter shall be die cast aluminum. They shall undergo a six stage cleaning and pretreatment process and overcoated with an electrostatically applied 2 to 4 mil coat of TGIC polyester powder paint cured at 425° F. The finish shall withstand a 160 inch-pound impact measured with a standard Gardner impact tester. It shall have passed a 1,000 hour salt spray test as specified by ASTM B-117. It shall exhibit no cracking or loss of adhesion from a 180° bend over a 1/8" mandrel diameter per ASTM D522. All external hardware shall be corrosion resistant. Housing access shall not require tools. The fitter shall be built in and accommodate a standard 2 inch tenon or arm. Units can be tilted between 0° and 18°. Electrical connection shall be inside the fitter assembly and not require fixture entry. A terminal block located inside the fitter shall be provided if specified. **Luminaires that require tilt higher than 18° to provide equal light distribution are not acceptable.**

**Quick Disconnect Electrical Assembly:** The fixture door shall contain all ballast components and be hinged for fast tool-free removal and replacement. Complete replacement shall take less than 60 seconds.

**Ballast:** Shall be copper wound, high power factor type as specified. It shall reliably start the lamp in ambient temperatures to minus 40° F. The plug-in HPS starter shall be totally encapsulated with a material that electrically and thermally insulates all components from lamp and ballast heat. A protected starter, if specified, shall sense an inoperative lamp and shut down automatically to prevent continuous pulsing and thermal damage to itself and the ballast secondary winding. Ballast factor shall be 1.0. **Luminaires with ballast factor less than 1.0 are not acceptable.**

**Optical and Socket Assembly:** The reflector shall consist of high purity (#3002 alloy) aluminum of minimum 0.08" thick sheet. Flat lens shall be 1/8" fully tempered glass. Pressed prismatic or clear drop lens shall be manufactured of borosilicate glass. The reflector and lens optical assembly shall be designed to provide the IESNA pattern specified. The socket shall be pulse rated, nickel-plated and lamp grip porcelain enclosed. It shall prevent undue lamp vibration and backout.

**ANSI Lamp Label:** A self-adhesive label shall be provided which identifies the lamp type and size. It shall meet ANSI C-136 standards.

**Warranty:** The electrical assembly shall be fully warranted for a period of six (6) years and the housing for a period of two (2) years from the date of manufacture.

**UL Listed** and suitable for wet locations at a maximum of 40° C ambient temperature. **Luminaires that cannot be documented to provide a UL listing of 40° C shall not be acceptable.**

**400 Watt HPS I-20/59  
Roadway Luminaire Specification**

**Infrastructure Outdoor 400 Watt High Pressure Sodium Roadway Luminaire**

**Wattage/Delivered Lumens:** Fixture shall be 400 Watts, 480 Volt, and provide 50,000 Minimum Delivered Lumens. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be acceptable.**

**Shape:** Fixture will be a match to the currently installed ALDOT and City of Birmingham Standard Offset Roadway Luminaire in size and shape. Fixture shall be 36.8" long, 15.27" tall and 16.7" wide. **Fixture shall be the Holophane 400W HPS Mongoose Low Tilt with Wide Roadway Optics and Clear Drop Glass Optic. Specific IES file shall be IES 51843.**

**Mechanical Construction:** The housing, door and fitter shall be die cast aluminum. They shall undergo a six stage cleaning and pretreatment process and overcoated with an electrostatically applied 2 to 4 mil coat of TGIC polyester powder paint cured at 425° F. The finish shall withstand a 160 inch-pound impact measured with a standard Gardner impact tester. It shall have passed a 1,000 hour salt spray test as specified by ASTM B-117. It shall exhibit no cracking or loss of adhesion from a 180° bend over a 1/8" mandrel diameter per ASTM D522. All external hardware shall be corrosion resistant. Housing access shall not require tools. The fitter shall be built in and accommodate a standard 2 inch tenon or arm. Units can be tilted between 0° and 18°. Electrical connection shall be inside the fitter assembly and not require fixture entry. A terminal block located inside the fitter shall be provided if specified. **Luminaires that require tilt higher than 18° to provide equal light distribution are not acceptable.**

**Quick Disconnect Electrical Assembly:** The fixture door shall contain all ballast components and be hinged for fast tool-free removal and replacement. Complete replacement shall take less than 60 seconds.

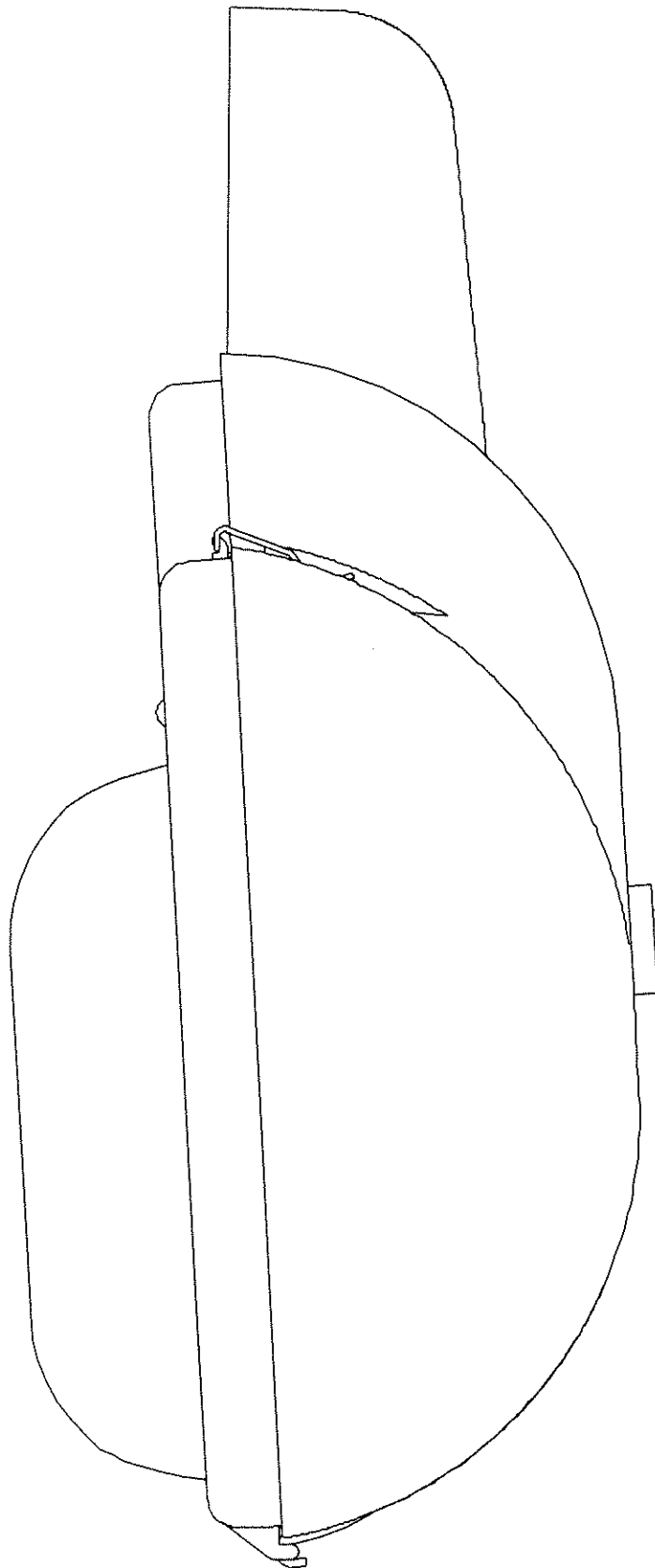
**Ballast:** Shall be copper wound, high power factor type as specified. It shall reliably start the lamp in ambient temperatures to minus 40° F. The plug-in HPS starter shall be totally encapsulated with a material that electrically and thermally insulates all components from lamp and ballast heat. A protected starter, if specified, shall sense an inoperative lamp and shut down automatically to prevent continuous pulsing and thermal damage to itself and the ballast secondary winding. Ballast factor shall be 1.0. **Luminaires with ballast factor less than 1.0 are not acceptable.**

**Optical and Socket Assembly:** The reflector shall consist of high purity (#3002 alloy) aluminum of minimum 0.08" thick sheet. Flat lens shall be 1/8" fully tempered glass. Pressed prismatic or clear drop lens shall be manufactured of borosilicate glass. The reflector and lens optical assembly shall be designed to provide the IESNA pattern specified. The socket shall be pulse rated, nickel-plated and lamp grip porcelain enclosed. It shall prevent undue lamp vibration and backout.

**ANSI Lamp Label:** A self-adhesive label shall be provided which identifies the lamp type and size. It shall meet ANSI C-136 standards.

**Warranty:** The electrical assembly shall be fully warranted for a period of six (6) years and the housing for a period of two (2) years from the date of manufacture.

**UL Listed** and suitable for wet locations at a maximum of 40° C ambient temperature. **Luminaires that cannot be documented to provide a UL listing of 40° C shall not be acceptable.**



City of Birmingham  
I-20/I-59 Roadway Luminaire  
250W & 400W HPS  
Mongoose



Designer  
Scott Curtis

Date  
Feb 21 2016

Scale

Drawing No.

1 of 1

**250 Watt HPS Equivalent LED  
I-20/59 Roadway Luminaire Specification**

**Infrastructure Outdoor 250 Watt HPS Equivalent LED Roadway Luminaire**

**Wattage/Delivered Lumens:** Fixture shall be 168 Watts with a drive current of 1050mA and provide 16,378 Minimum Delivered Lumens. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be accepted.**

**Shape:** Fixture will be a LED version match to the currently installed ALDOT and City of Birmingham Standard Offset Roadway Luminaire. Fixture shall be 40.1" long, 6.6" tall and 17.7" wide. Color shall be gray. **Fixture shall be the Holophane LED Mongoose, 4 Module, Low Tilt with Wide Roadway Optics. Specific IES file shall be IES LTL24772P11.**

**Mechanical Construction:** Rugged low copper diecast aluminum coupled with a rigorous 5-stage pretreatment, epoxy basecoat and polyester topcoat yield a finish that achieves a scribe creepage rating of 8 after 5,000 hours of salt spray. Removable "power door" facilitates product installation and maintenance and shall be hinged for fast tool-free removal and replacement. Complete replacement shall take less than 60 seconds. Corrosion resistant stainless steel latches ensure secure closure over the long fixture life. Multiple mounting configurations allow for attachment to horizontal mast arms, pole top tenons, and direct mounting to square poles. All Mountings are 3G vibration rated per ANSI C136. Adjustable fixture tilt from 0-45° provides flexibility to optimize lighting performance. **For Specific Application, luminaires that require tilt higher than 18° to provide equal light distribution are not acceptable. Specific application also will be vertical mounting to pole top tenon. Luminaires that do not meet these requirements shall not be acceptable.**

**Electrical:** Electronic driver has an expected life of 100,000 hours at 25° C LED light engines are rated >100,000 at 25° C, L70 Robust ANSI/IEEE C62.4 Category C (10kV/5kA) fixture protection is provided by a specially designed Acuity surge protection device.

**Controls Options:** Premium solid state locking-style photocontrol - PCSS (10 year rated life). Extreme long life solid state locking-style photocontrol - PCLL (20 year rated life) Multi-level dimming DE and VE options allow the fixture to be dimmed using the ROAM control system

**Quick Disconnect Electrical Assembly:** The fixture door shall contain all ballast components and shall be hinged for fast tool-free removal and replacement. Complete replacement shall take less than 60 seconds.

Warranty & Standards  
5 Year limited warranty.  
Rated for -40C to 40C ambient  
CSA Certified to US and Canadian standards

**Luminaires that cannot be documented to provide a listing of 40° C shall not be acceptable.**

**400 Watt HPS Equivalent LED  
I-20/59 Roadway Luminaire Specification**

**Infrastructure Outdoor 400 Watt HPS Equivalent LED Roadway Luminaire**

**Wattage/Delivered Lumens:** Fixture shall be 290 Watts with a drive current of 1050mA and provide 28,278 Minimum Delivered Lumens. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be accepted.**

**Shape:** Fixture will be a LED version match to the currently installed ALDOT and City of Birmingham Standard Offset Roadway Luminaire. Fixture shall be 40.1" long, 6.6" tall and 17.7" wide. Color shall be gray. **Fixture shall be the Holophane LED Mongoose, 7 Module, Low Tilt with Wide Roadway Optics. Specific IES file shall be IES LTL24772P5.**

**Mechanical Construction:** Rugged low copper diecast aluminum coupled with a rigorous 5-stage pretreatment, epoxy basecoat and polyester topcoat yield a finish that achieves a scribe creepage rating of 8 after 5,000 hours of salt spray. Removable "power door" facilitates product installation and maintenance and shall be hinged for fast tool-free removal and replacement. Complete replacement shall take less than 60 seconds. Corrosion resistant stainless steel latches ensure secure closure over the long fixture life. Multiple mounting configurations allow for attachment to horizontal mast arms, pole top tenons, and direct mounting to square poles. All Mountings are 3G vibration rated per ANSI C136. Adjustable fixture tilt from 0-45° provides flexibility to optimize lighting performance. **For Specific Application, luminaires that require tilt higher than 18° to provide equal light distribution are not acceptable. Specific application also will be vertical mounting to pole top tenon. Luminaires that do not meet these requirements shall not be acceptable.**

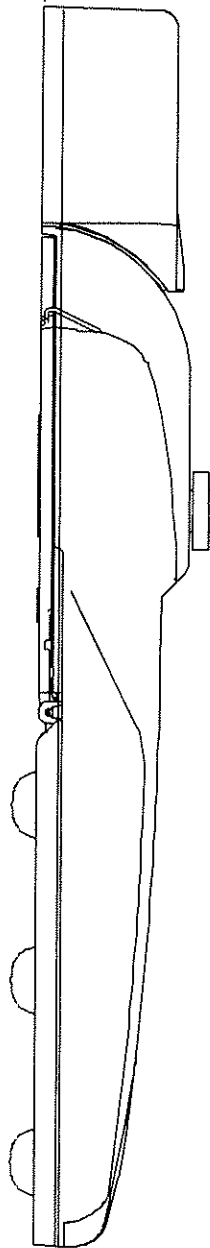
**Electrical:** Electronic driver has an expected life of 100,000 hours at 25° C LED light engines are rated >100,000 at 25° C, L70 Robust ANSI/IEEE C62.4 Category C (10kV/5kA) fixture protection is provided by a specially designed Acuity surge protection device.

**Controls Options:** Premium solid state locking-style photocontrol - PCSS (10 year rated life). Extreme long life solid state locking-style photocontrol - PCLL (20 year rated life) Multi-level dimming DE and VE options allow the fixture to be dimmed using the ROAM control system.

**Quick Disconnect Electrical Assembly:** The fixture door shall contain all ballast components and shall be hinged for fast tool-free removal and replacement. Complete replacement shall take less than 60 seconds.

Warranty & Standards  
5 Year limited warranty.  
Rated for -40C to 40C ambient  
CSA Certified to US and Canadian standards

**Luminaires that cannot be documented to provide a listing of 40° C shall not be acceptable.**



City of Birmingham  
I20-I59  
250 & 400 Watt LED Equivalent  
Offset Roadway Luminaire



**Designer**  
Scott Curtis

**Date**  
Mar 3 2016

**Scale**

**Drawing No.**

1 of 1



**LED Cobrahead 250 Watt HPS  
Equivalent Luminaire Specification**

**LED Cobrahead Luminaire - 250 Watt HPS Equivalent**

**Optical:** LED Wattage/Delivered Lumens Fixture shall be 138 Watts with a drive current of 1000mA and provide 15,520 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be acceptable.**

**White Light:** Correlated color temperature - standard 4000K, 70 CRI minimum or optional 5000K, 70 CRI minimum.

Unique IP66 rated LED light engines provided 0% uplight and restrict backlight to within sidewalk depth, providing optimal application coverage and optimal pole spacing. **Fixtures that are not IP66 rated are not acceptable.**

Type III roadway distribution. **Specific IES file is LTL25370P23. Luminaire part number is ATB2 40BLEDE 10 MVOLT R3 NL**

Color shall be gray.

**Electrical:** Expected Life: LED light engines are rated >100,000 hours at 25° C, L70. Electronic driver has an expected life of 100,000 hours at a 25° C ambient. **Fixtures that do not meet these specifications are not acceptable.**

**Lower Energy:** Saves an average of 40-60% over comparable HPS platforms.

**Robust Surge Protection:** Surge protection options provide a minimum of IEEE/ANSI C62.41 Category C (10kV/5kA) protection.

**Mechanical/Easy to Maintain:** Includes standard lineman-friendly features such as tool-less entry, 3 station terminal block and quick disconnects. Bubble level located inside the electrical compartment for easy leveling at installation.

Rugged die-cast aluminum housing is polyester powder-coated for durability and corrosion resistance. Rigorous five-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 1000 hours exposure to salt fog chamber (operated per ASTM B117) Optional Enhanced Corrosion Resistant finish (CR) increases the salt spray exposure to 5000 hours.

Four-bolt mast arm mount is adjustable for arms from 1¼" to 2" (1⅝" to 2⅜" O.D.) diameter and provides a 3G vibration rating per ANSI C136. **Fixtures that do not provide four-bolt mast arm mount are not acceptable.**

Wildlife shield is cast into the housing (not a separate piece). **Fixtures with wildlife shield not cast into housing are not acceptable.**

**Controls:** NEMA 3 Pin photocontrol receptacle is standard, ANSI 5 Pin and 7 Pin receptacles optionally available.

Premium solid state locking sale photocontrol - PCSS (10 year rated life). Extreme long life sold state locking style photocontrol - PCLL (20 year rated life).

Multi-level dimming available to provide scheduled dimming if specified.

Optional onboard Adjustable Output module allows the light output and input wattage to be modified to meet site specific requirements, and can also allow a single fixture to be flexibly applied in many different applications.

**Warranty:** 5 year limited warranty. Rated for -40° C to 40° C ambient. CSA Certified to U.S. and Canadian standards. Complies with ANSI: C136.2, C136.10, C136.14, C136.31, C136.15, C136.37

**LED Cobrahead 400 Watt HPS  
Equivalent Luminaire Specification**

**LED Cobrahead Luminaire - 400 Watt HPS Equivalent**

**Optical:** LED Wattage/Delivered Lumens Fixture shall be 260 Watts with a drive current of 1300mA and provide 27,477 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be acceptable.**

**White Light:** Correlated color temperature - standard 4000K, 70 CRI minimum or optional 5000K, 70 CRI minimum.

Unique IP66 rated LED light engines provided 0% uplight and restrict backlight to within sidewalk depth, providing optimal application coverage and optimal pole spacing. **Fixtures that are not IP66 rated are not acceptable.**

Type III roadway distribution. **Specific IES file is LTL25370P33. Luminaire part number is ATB2 60BLEDE 13 MVOLT R3 NL**

Color shall be gray.

**Electrical:** Expected Life: LED light engines are rated >100,000 hours at 25° C, L70. Electronic driver has an expected life of 100,000 hours at a 25° C ambient. **Fixtures that do not meet these specifications are not acceptable.**

**Lower Energy:** Saves an average of 40-60% over comparable HPS platforms.

**Robust Surge Protection:** Surge protection options provide a minimum of IEEE/ANSI C62.41 Category C (10kV/5kA) protection.

**Mechanical:** Easy to Maintain: Includes standard lineman-friendly features such as tool-less entry, 3 station terminal block and quick disconnects. Bubble level located inside the electrical compartment for easy leveling at installation.

Rugged die-cast aluminum housing is polyester powder-coated for durability and corrosion resistance. Rigorous five-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 1000 hours exposure to salt fog chamber (operated per ASTM B117) Optional Enhanced Corrosion Resistant finish (CR) increases the salt spray exposure to 5000 hours.

Four-bolt mast arm mount is adjustable for arms from 1¼" to 2" (1½" to 2½" O.D.) diameter and provides a 3G vibration rating per ANSI C136. **Fixtures that do not provide four-bolt mast arm mount are not acceptable.**

Wildlife shield is cast into the housing (not a separate piece). **Fixtures with wildlife shield not cast into housing are not acceptable.**

**Controls:** NEMA 3 Pin photocontrol receptacle is standard, ANSI 5 Pin and 7 Pin receptacles optionally available.

Premium solid state locking sale photocontrol - PCSS (10 year rated life).

Extreme long life sold state locking style photocontrol - PCLL (20 year rated life).

Multi-level dimming available to provide scheduled dimming if specified.

Optional onboard Adjustable Output module allows the light output and input wattage to be modified to meet site specific requirements, and can also allow a single fixture to be flexibly applied in many different applications.

**Warranty:** 5 year limited warranty. Rated for -40° C to 40° C ambient.

CSA Certified to U.S. and Canadian standards. Complies with ANSI: C136.2, C136.10, C136.14, C136.31, C136.15, C136.37

**LED Cobrahead 1000 Watt HPS  
Equivalent Luminaire Specification**

**LED Cobrahead Luminaire - 1000 Watt HPS Equivalent**

**Optical:** LED Wattage/Delivered Lumens Fixture shall be 274 Watts with a drive current of 1000mA and provide 32,391 Minimum Delivered Lumens at 4000K CCT. **Fixtures that do not meet wattage and minimum delivered lumen criteria will not be acceptable.**

**White Light:** Correlated color temperature - standard 4000K, 70 CRI minimum or optional 5000K, 70 CRI minimum.

Unique IP66 rated LED light engines provided 0% uplight and restrict backlight to within sidewalk depth, providing optimal application coverage and optimal pole spacing. **Fixtures that are not IP66 rated are not acceptable.**

Type III roadway distribution. **Specific IES file is LTL25370P39. Luminaire part number is ATB2 80BLEDE 10 MVOLT R3 NL**

Color shall be gray.

**Electrical:** Expected Life: LED light engines are rated >100,000 hours at 25° C, L70. Electronic driver has an expected life of 100,000 hours at a 25° C ambient. **Fixtures that do not meet these specifications are not acceptable.**

**Lower Energy:** Saves an average of 40-60% over comparable HPS platforms.

**Robust Surge Protection:** Surge protection options provide a minimum of IEEE/ANSI C62.41 Category C (10kV/5kA) protection.

**Mechanical:** Easy to Maintain: Includes standard lineman-friendly features such as tool-less entry, 3 station terminal block and quick disconnects. Bubble level located inside the electrical compartment for easy leveling at installation.

Rugged die-cast aluminum housing is polyester powder-coated for durability and corrosion resistance. Rigorous five-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 1000 hours exposure to salt fog chamber (operated per ASTM B117) Optional Enhanced Corrosion Resistant finish (CR) increases the salt spray exposure to 5000 hours.

Four-bolt mast arm mount is adjustable for arms from 1¼" to 2" (1⅝" to 2⅜" O.D.) diameter and provides a 3G vibration rating per ANSI C136. **Fixtures that do not provide four-bolt mast arm mount are not acceptable.**

Wildlife shield is cast into the housing (not a separate piece). **Fixtures with wildlife shield not cast into housing are not acceptable.**

**Controls:** NEMA 3 Pin photocontrol receptacle is standard, ANSI 5 Pin and 7 Pin receptacles optionally available.

Premium solid state locking sale photocontrol - PCSS (10 year rated life).

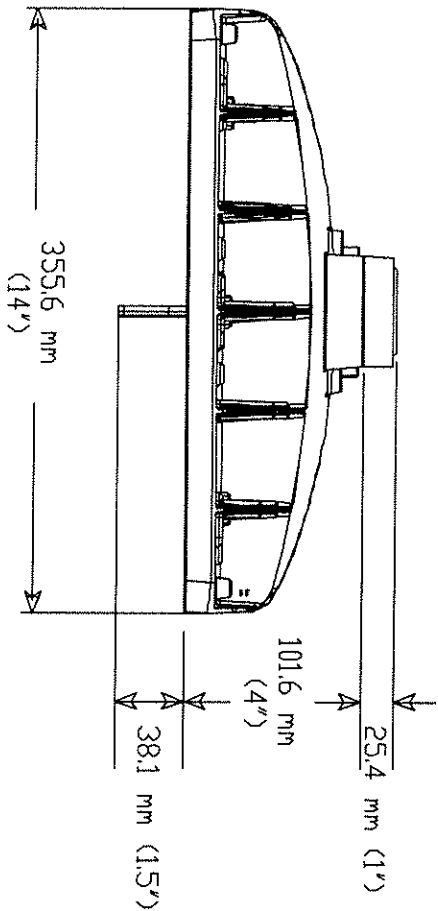
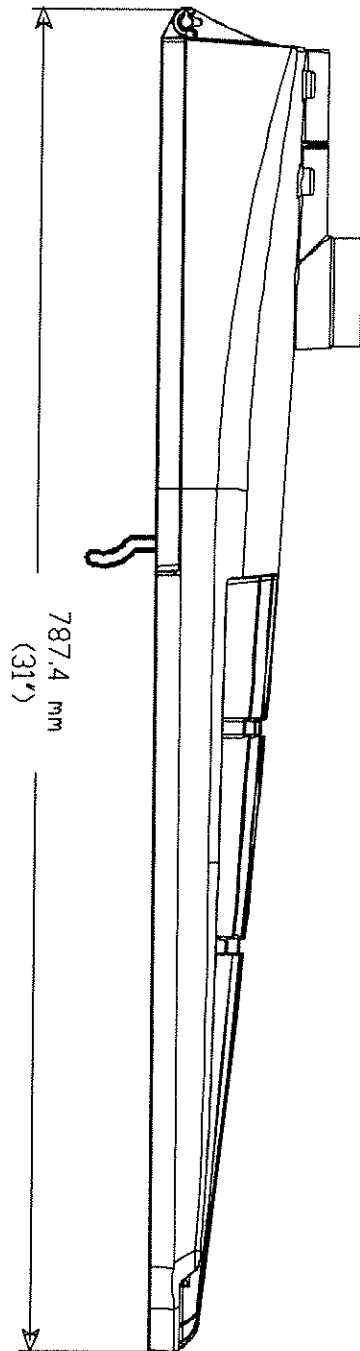
Extreme long life sold state locking style photocontrol - PCLL (20 year rated life).

Multi-level dimming available to provide scheduled dimming if specified.

Optional onboard Adjustable Output module allows the light output and input wattage to be modified to meet site specific requirements, and can also allow a single fixture to be flexibly applied in many different applications.

**Warranty:** 5 year limited warranty. Rated for -40° C to 40° C ambient.

CSA Certified to U.S. and Canadian standards. Complies with ANSI: C136.2, C136.10, C136.14, C136.31, C136.15, C136.37



City of Birmingham- UAB  
400W & 1000W HPS Cobrahead  
LED Equivalent Luminaire



Designer  
Scott Curtis

Date  
March 2 2016

Scale

Drawing No.

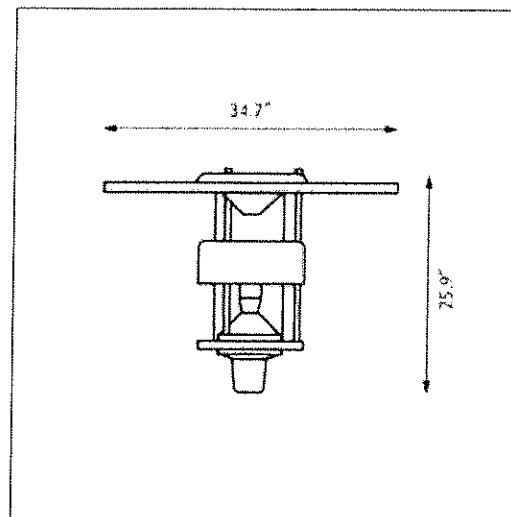
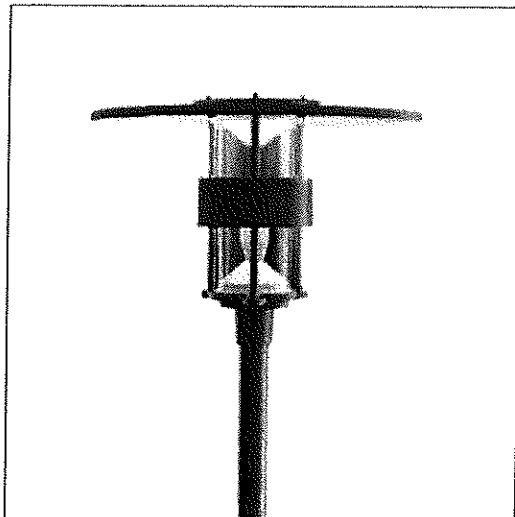
15 of 15

# Albertslund Maxi Post

ALB-MAX-PT-150W-250W-MH

PRODUCT SPECIFICATION

## Product description



**Design** Jens Møller-Jensen

**Concept** The fixture emits symmetrical glare-free light directed downwards. The top shade helps direct the light downwards and prevent light from being emitted upwards. The white painted reflectors result in diffuse and comfortable light distribution.

**Finish** Graphite grey, grey, white or natural painted aluminum, powder coated.

**Material** Top shade: Die formed fiber glass. Enclosure: Injection molded clear U.V. stabilized polycarbonate. Anti-glare ring (HID): Polycarbonate, white finish being white opal translucent and other finishes being painted to match. Heat sink (LED): Die cast aluminum painted to match. Base: Die cast aluminum. Struts (HID): Stainless steel. Struts (LED): Aluminum.

**Mounting** Post top: Mounted on dual round aluminum (DRA) or round straight aluminum (RSA) pole.

**Weight** Max. 43 lbs.

**Label** cULus, Wet location, IBEW.

Product Code	Light source	Voltage	Finish	Electric shock protect.	Transition to pole	Features
ALB-MAX-PT	1/150W/MH/ED-28 mogul	120/277V	GRAPH	NOT APPLICABLE	T-DRA-5"-3"	DIM 0-10V
	1/250W/MH/ED-28 mogul	120-277V	GREY	SURGE PROTECTOR	T-RSA-4.5"	NOT APPLICABLE
	112W LED/3000K		NAT PAINT ALU			
	112W LED/4000K		WHT			

### Specification notes

- 150W MH light source with 120-277V ballast is only available with T-RSA-4.5" transition to pole.
- 150W MH light source with 120/277V ballast is only available with T-DRA-5"-3" transition to pole.
- 150W MH with surge and/or dimming options only available with T-RSA-4.5" transition to pole.
- 250W MH light source only provided with 120/277V ballast.
- 250W MH not available with surge and/or dimming options.
- LED light source only available with 120-277V.
- LED light source with surge protector only available with T-RSA-4.5

### transition to pole

- Consult factory for product specifications for Photo Sensor and Wireless Control options.

**louis  
poulsen**

Louis Poulsen USA Inc. | 3260 Meridian Parkway | FL 33331 | PH:954-349-2525 | Fax: 954-349-2550 | louis@poulsen.com

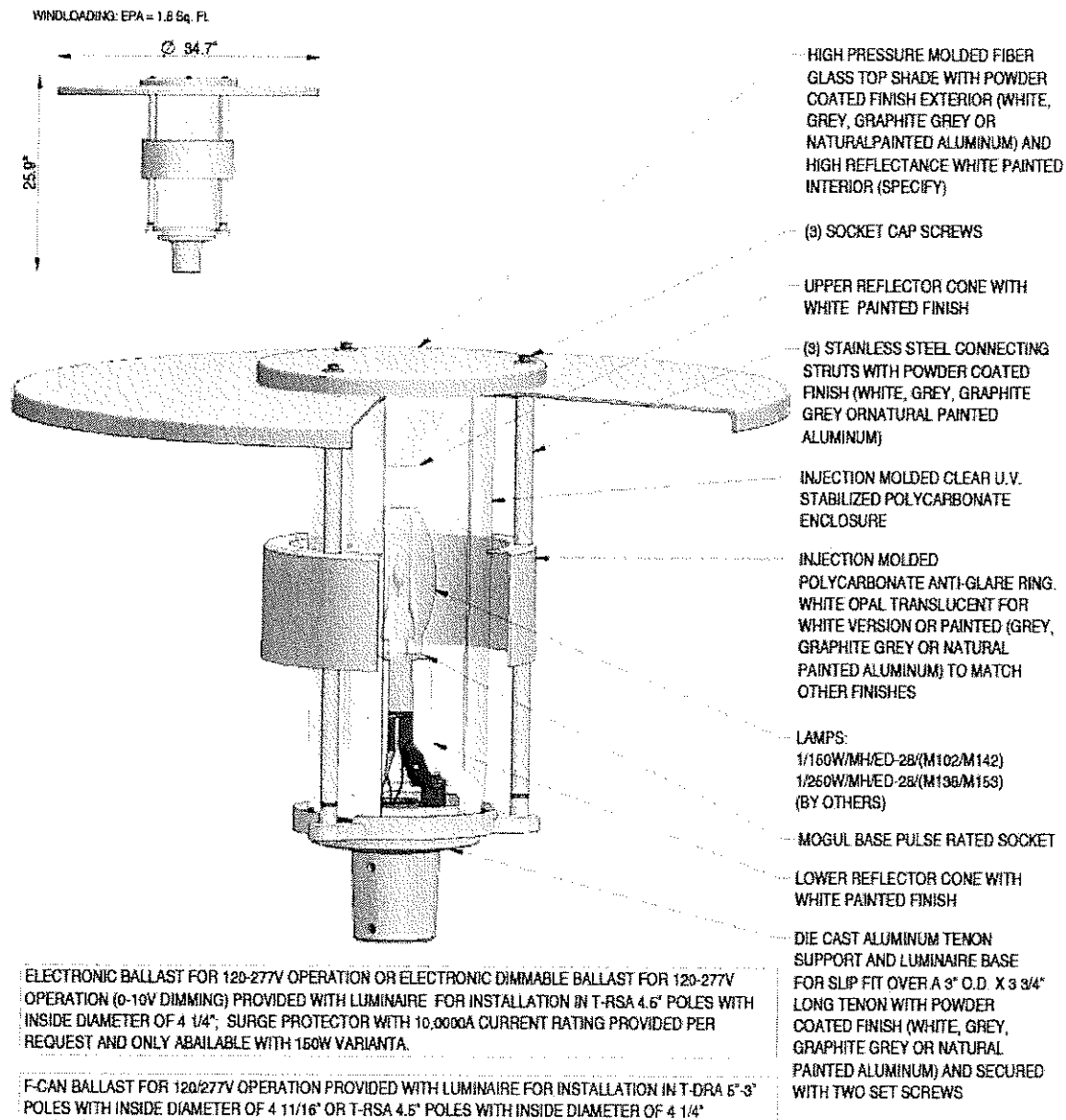
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# Albertslund Maxi Post

ALB-MAX-PT-150W-250W-MH

PRODUCT SPECIFICATION

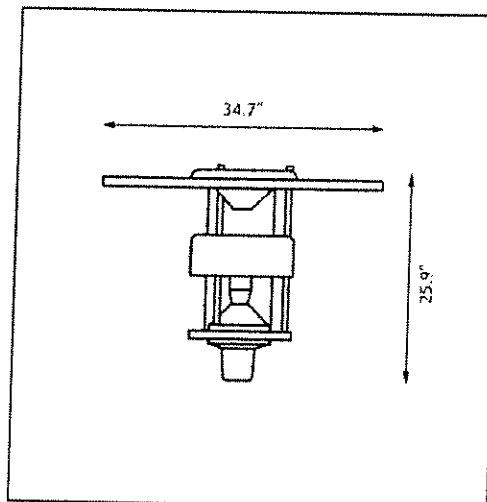
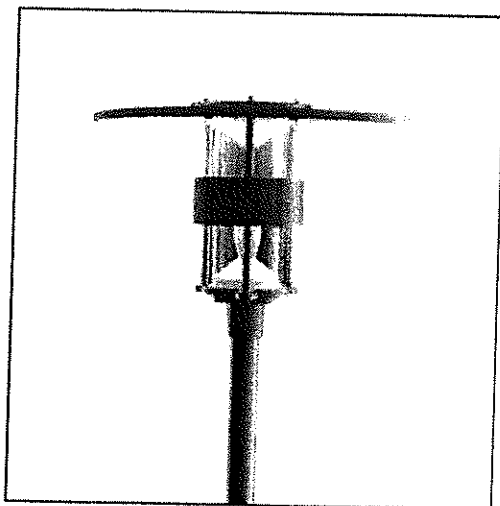
## Material description



# Albertslund Maxi Post

ALB-MAX-PT-LED

## Product description



**Design** Jens Møller-Jensen

**Concept** The fixture emits symmetrical glare-free light directed downwards. The top shade helps direct the light downwards and prevent light from being emitted upwards. The white painted reflectors result in diffuse and comfortable light distribution.

**Finish** Graphite grey, grey, white or natural painted aluminum, powder coated.

**Material** Top shade: Die formed fiber glass. Enclosure: Injection molded clear U.V. stabilized polycarbonate. Anti-glare ring (HID): Polycarbonate, white finish being white opal translucent and other finishes being painted to match. Heat sink (LED): Die cast aluminum painted to match. Base: Die cast aluminum. Struts (HID): Stainless steel. Struts (LED): Aluminum.

**Mounting** Post top: Mounted on dual round aluminum (DRA) or round straight aluminum (RSA) pole.

**Weight** Max. 43 lbs.

**Label** cULus, Wet location, IBEW.

Product Code	Light source	Voltage	Finish	Electric shock protect.	Transition to pole	Features
ALB-MAX-PT	1/150W/MH/ED-28 mogul	120/277V	GRAPH	NOT APPLICABLE	T-DRA-5"-3"	DIM 0-10V
	1/250W/MH/ED-28 mogul	120-277V	GREY	SURGE PROTECTOR	T-RSA-4.5"	NOT APPLICABLE
	112W LED/3000K		NAT PAINT ALU			
	112W LED/4000K		WHT			

### Specification notes

- 150W MH light source with 120-277V ballast is only available with T-RSA-4.5" transition to pole.
- 150W MH light source with 120/277V ballast is only available with T-DRA-5"-3" transition to pole.
- 150W MH with surge and/or dimming options only available with T-RSA-4.5" transition to pole.
- 250W MH light source only provided with 120/277V ballast.
- 250W MH not available with surge and/or dimming options.
- LED light source only available with 120-277V.
- LED light source with surge protector only available with T-RSA-4.5 transition to pole.
- Consult factory for product specifications for Photo Sensor and Wireless Control options.

**louis  
poulsen**

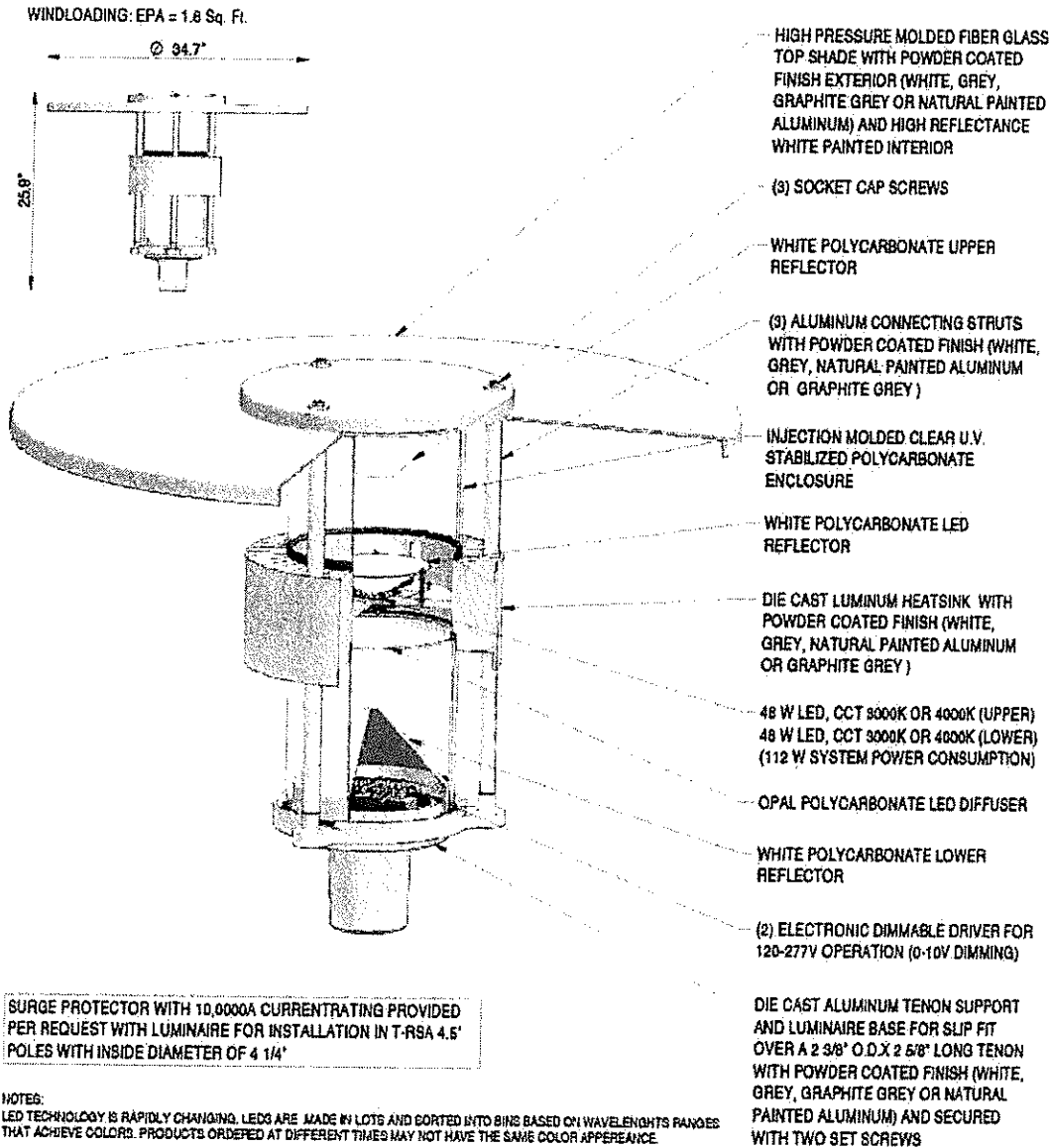
Louis Poulsen Lighting | 3260 Meridian Parkway | FL 33331 | PH:954-349-2525 | Fax: 954-349-2550 | louis@louis-poulsen.com

1/3 yu

# Albertslund Maxi Post

ALB-MAX-PT-LED

## Material description





# Albertslund Maxi Post

ALB-MAX-PT-LED

PRODUCT SPECIFICATION

## Light Measurements

Photometric Report: ALB-MAX-PT-112W LED

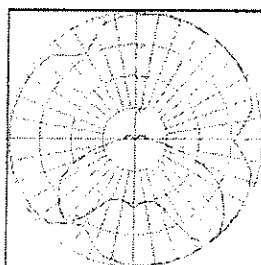
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Poulsen Report No: ALB-MAX-PT-112W LED

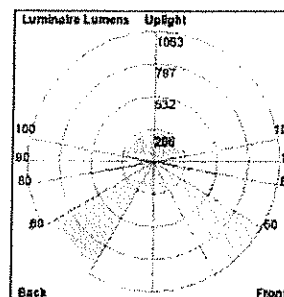
Luminaire: ALBERTSLUND MAXI

Lamp: 112W LED/3000K

Description: All data shown are per 4224 lumens. This report can be used for calculation on all versions listed below. Use only actual lumen data calculating.



Vertical Angle	Candela
0	558
5	524
15	506
25	571
35	752
45	787
55	702
65	562
75	330
90	102
120	0
150	0
180	0



Zone	Lumens	% Lamp	% Fixture
0-20	187.53	N.A.	4.70
0-30	512.54	N.A.	12.10
0-40	1108.64	N.A.	26.20
0-50	2610.55	N.A.	61.80
0-60	3692.02	N.A.	87.40
0-90	3891.21	N.A.	92.10
10-90	3841.19	N.A.	90.90
20-90	3111.11	N.A.	73.60
23-90	1652.38	N.A.	39.10
40-90	2168.85	N.A.	51.30
60-90	1082.07	N.A.	25.60
70-90	415.13	N.A.	9.80
80-90	198.59	N.A.	4.70
90-110	195.71	N.A.	4.60
90-120	269.65	N.A.	6.30
90-130	315.64	N.A.	7.50
90-150	332.86	N.A.	7.90
90-180	137.15	N.A.	3.20
0-180	4224.07	N.A.	100.00

### LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	261.9	N.A.	6.2
FM - Front-Medium (30-60)	1083.1	N.A.	25.2
FH - Front-High (60-90)	840.3	N.A.	12.8
FVH - Front-Very High (90-100)	88.6	N.A.	2.1
BL - Back-Low (0-30)	250.7	N.A.	5.9
BM - Back-Medium (30-60)	1034.9	N.A.	24.5
BH - Back-High (60-90)	541.9	N.A.	12.8
BVH - Back-Very High (90-100)	100.0	N.A.	2.4
UL - Uplight-Low (90-100)	103.7	N.A.	2.5
UH - Uplight-High (100-180)	220.1	N.A.	5.4
Total	4224.1	N.A.	100.0
BUG Rating	B2-U3-G1		

## LED Information

CCT	CCT TOLERANCE	CRI	FIXTURE PERFORMANCE			LED PACKAGE
3000°K	+/- 6 SDCM	80	4,013 LUMENS	112 WATT	35.8 lm/W	2 C.O.B. LEDs on center heatsink, 1 facing up, 1 facing down
4000°K	+/- 6 SDCM	80	4,224 LUMENS		37.7lm/W	

**HID** lighting  
**D813**  
 Decorative Outdoor Luminaire

**Job Information**

Type: Y1

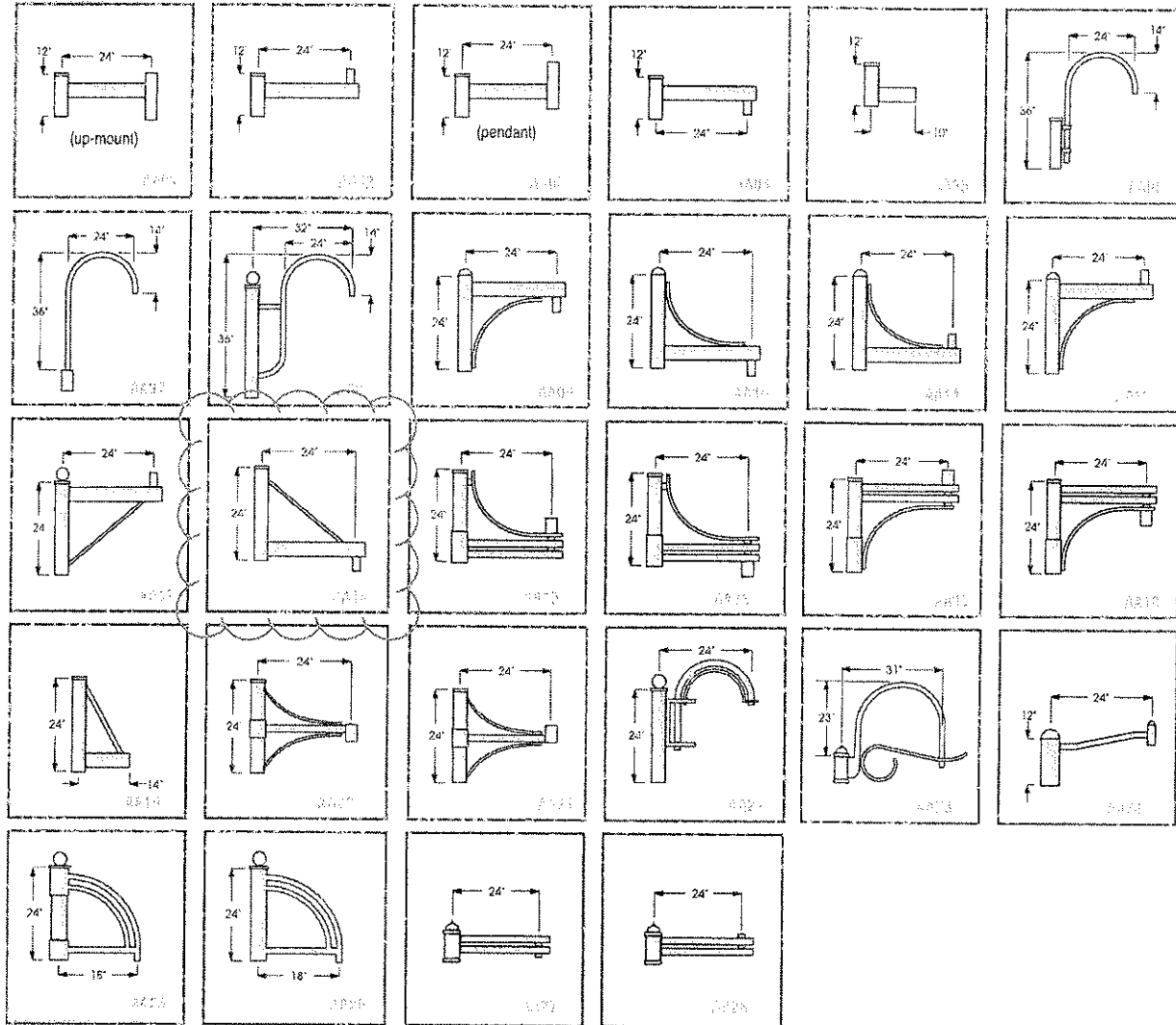
Catalog #: D81320250xxxSMHT51GYWSFLP AA14

Project: Parkside Ballpark Street Lighting Alts

Comments:

Prepared by: H & H Prescott

*View Detail*



**HID Lighting D E C O**

Lighting  
 Fixtures  
 Components  
 Accessories  
 Controls  
 Installation  
 Maintenance  
 Repairs  
 Replacement  
 Parts  
 Service  
 Training  
 Support  
 Information

**Type “A” Standard 40 Watt  
Post Top Retrofit Kit Specification**

**Architectural Outdoor – Type “A” Standard 40 Watt LED Retrofit Kit**

**LED Wattage/Delivered Lumens:** Fixture shall be 40 Watts with a drive current of 215mA and provide 3,662 Minimum Delivered Lumens at 4000K CCT.

**Shape/Design:** LED Retrofit Kit is manufactured for the Birmingham Standard Type “A” Post Top Luminaire which is the Holophane Granville Utility. All components including LED’s, Heatsink, Internal Reflector, Stalk and Driver Module must be a match to the currently installed Holophane Granville Utility. **Alternate products are not acceptable.**

**Driver/Electrical Module:** The electrical components are to be mounted on an aluminum plate and are installed and can be removed without the use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. For photoelectric operation, the electrical module is provided with an E.E. I, -N.E.M.A. twist lock photocell receptacle. All electrical components shall have a five (5) year warranty.

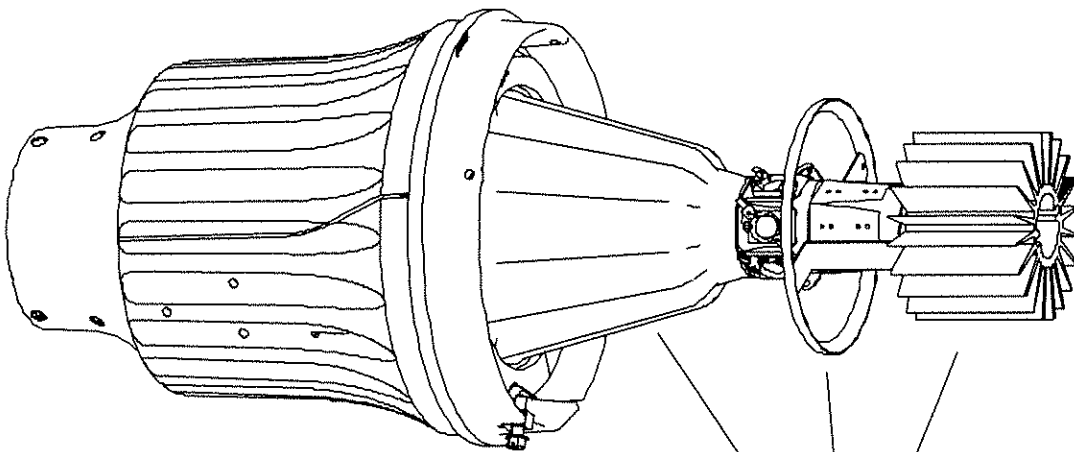
**LED’s:** Are to use “Chip on Board” multi-die LED technology to facilitate design to provide an optimized light source in an optimized light center position. LED’s shall be 4000K correlated color temperature.

**LED Life Projection:** Luminaire shall provide L70 LED life of >100,000 hours at 40° C.

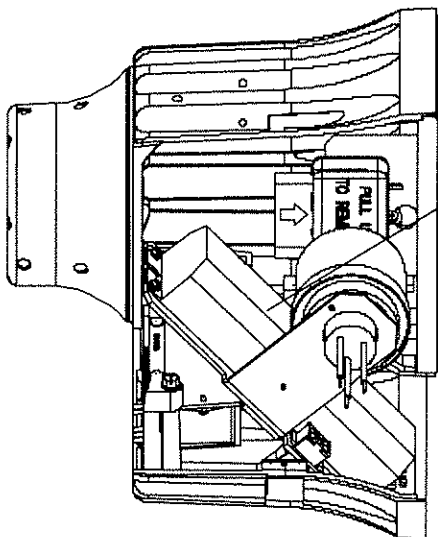
**Thermal Management:** Retrofit Kit is designed the same as complete fixture components to provide proper thermal management. **Alternate Luminaire drivers that would use “thermal cutback” to manage heat to prolong life LED and driver life are not acceptable. Additionally, alternate product that require de-rating lumens at 40° C before calculation of lumen depreciation will not be acceptable.**

**UL Listed** and suitable for wet locations at a maximum of 40°C ambient temperature.

LED Retrofit Kit shall be designed for and specific to the Holophane Granville II LED Classic Utility.



# LED Retrofit Kit Components



City of Birmingham  
Type "A" Standard Post Top  
40 Watt LED  
Retrofit Kit



Designer  
Scott Curtis

Date  
Feb 2 2016

Scale

Drawing No.

1 of 1

**Type “A” Standard 60 Watt  
Post Top Retrofit Kit Specification**

**Architectural Outdoor – Type “A” Standard 60 Watt LED Retrofit Kit**

**LED Wattage/Delivered Lumens:** Fixture shall be 60 Watts with a drive current of 315mA and provide 5,176 Minimum Delivered Lumens at 4000K CCT.

**Shape/Design:** LED Retrofit Kit is manufactured for the Birmingham Standard Type “A” Post Top Luminaire which is the Holophane Granville Utility. All components including LED’s, Heatsink, Internal Reflector, Stalk and Driver Module must be a match to the currently installed Holophane Granville Utility. **Alternate products are not acceptable.**

**Driver/Electrical Module:** The electrical components are to be mounted on an aluminum plate and are installed and can be removed without the use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. For photoelectric operation, the electrical module is provided with an E.E. I, -N.E.M.A. twist lock photocell receptacle. All electrical components shall have a five (5) year warranty.

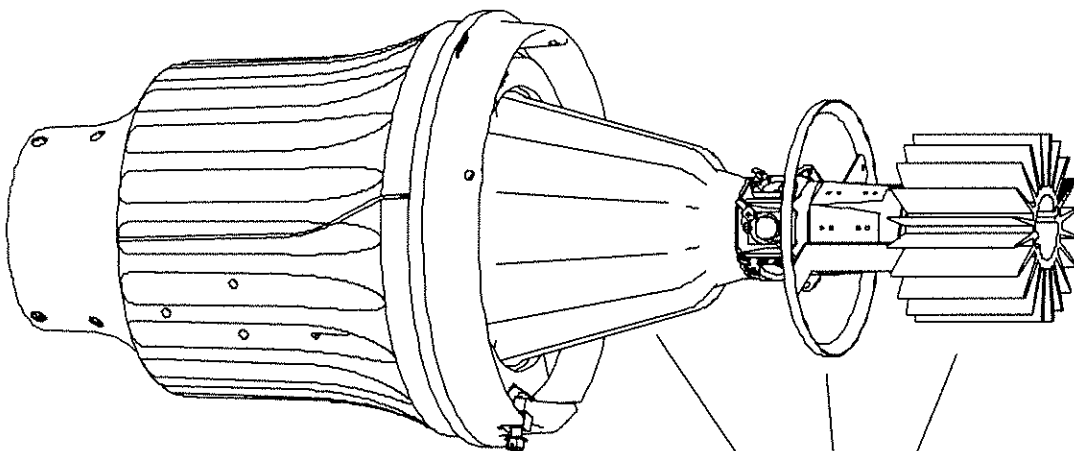
**LED’s:** Are to use “Chip on Board” multi-die LED technology to facilitate design to provide an optimized light source in an optimized light center position. LED’s shall be 4000K correlated color temperature.

**LED Life Projection:** Luminaire shall provide L70 LED life of >100,000 hours at 40° C.

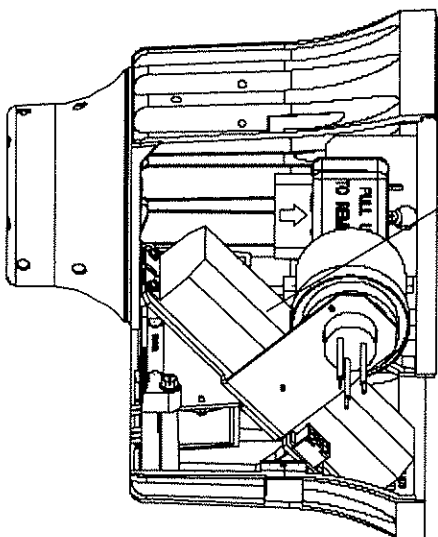
**Thermal Management:** Retrofit Kit is designed the same as complete fixture components to provide proper thermal management. **Alternate Luminaire drivers that would use “thermal cutback” to manage heat to prolong life LED and driver life are not acceptable. Additionally, alternate product that require de-rating lumens at 40° C before calculation of lumen depreciation will not be acceptable.**

**UL Listed** and suitable for wet locations at a maximum of 40°C ambient temperature.

LED Retrofit Kit shall be designed for and specific to the Holophane Granville II LED Classic Utility.



# LED Retrofit Kit Components



City of Birmingham  
Type "A" Standard Post Top  
60 Watt LED  
Retrofit Kit



Designer  
Scott Curtis

Date  
Feb 2 2016

Scale

Drawing No.

2 of 3

**Type “A” Standard 80 Watt  
Post Top Retrofit Kit Specification**

**Architectural Outdoor – Type “A” Standard 80 Watt LED Retrofit Kit**

**LED Wattage/Delivered Lumens:** Fixture shall be 80 Watts with a drive current of 400mA and provide 6,509 Minimum Delivered Lumens at 4000K CCT.

**Shape/Design:** LED Retrofit Kit is manufactured for the Birmingham Standard Type “A” Post Top Luminaire which is the Holophane Granville Utility. All components including LED’s, Heatsink, Internal Reflector, Stalk and Driver Module must be a match to the currently installed Holophane Granville Utility. **Alternate products are not acceptable.**

**Driver/Electrical Module:** The electrical components are to be mounted on an aluminum plate and are installed and can be removed without the use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. For photoelectric operation, the electrical module is provided with an E.E. I, -N.E.M.A. twist lock photocell receptacle. All electrical components shall have a five (5) year warranty.

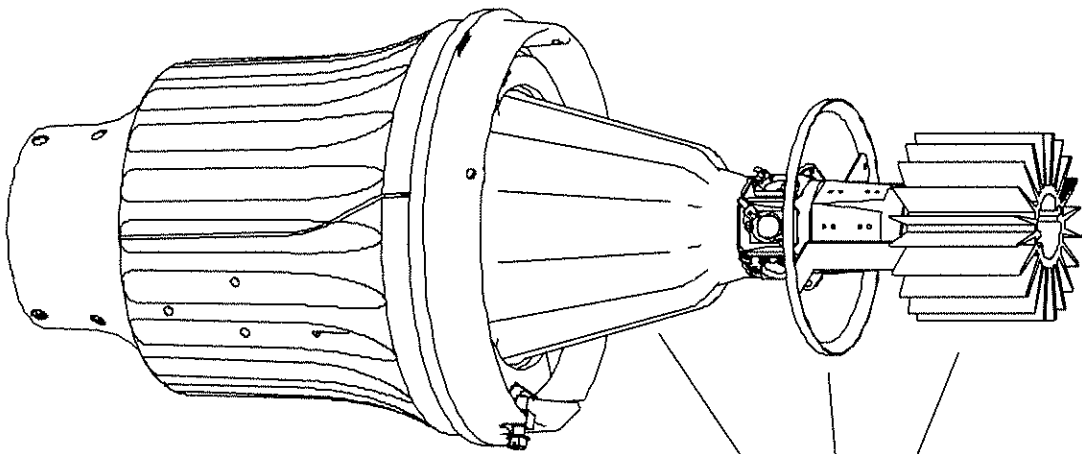
**LED’s:** Are to use “Chip on Board” multi-die LED technology to facilitate design to provide an optimized light source in an optimized light center position. LED’s shall be 4000K correlated color temperature.

**LED Life Projection:** Luminaire shall provide L70 LED life of >100,000 hours at 40° C.

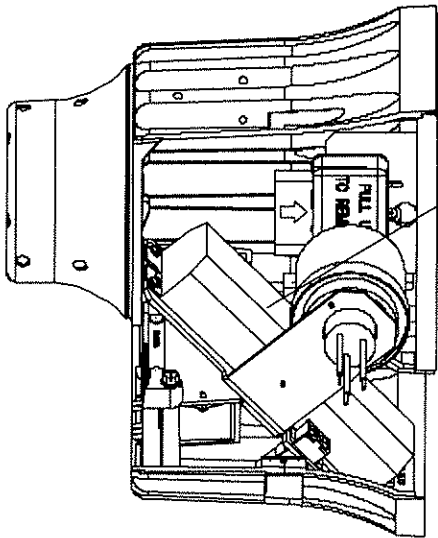
**Thermal Management:** Retrofit Kit is designed the same as complete fixture components to provide proper thermal management. **Alternate Luminaire drivers that would use “thermal cutback” to manage heat to prolong life LED and driver life are not acceptable. Additionally, alternate product that require de-rating lumens at 40° C before calculation of lumen depreciation will not be acceptable.**

**UL Listed** and suitable for wet locations at a maximum of 40°C ambient temperature.

LED Retrofit Kit shall be designed for and specific to the Holophane Granville II LED Classic Utility.



# LED Retrofit Kit Components



City of Birmingham  
Type "A" Standard Post Top  
80 Watt LED  
Retrofit Kit



**Designer**  
Scott Curtis

**Date**  
Feb 2 2016

**Scale**

**Drawing No.**

3 of 3



**Type “A” Standard Decorative  
Ribs & Band Kit Specification**

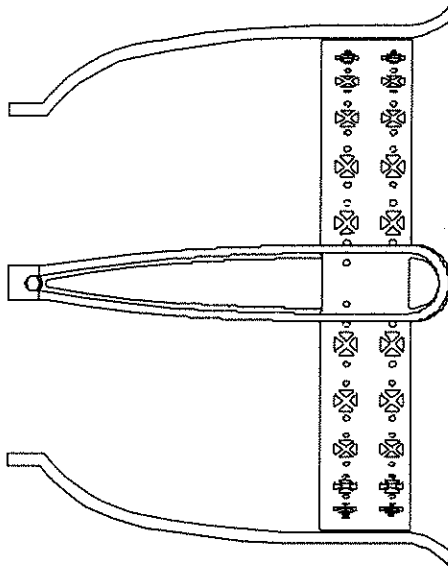
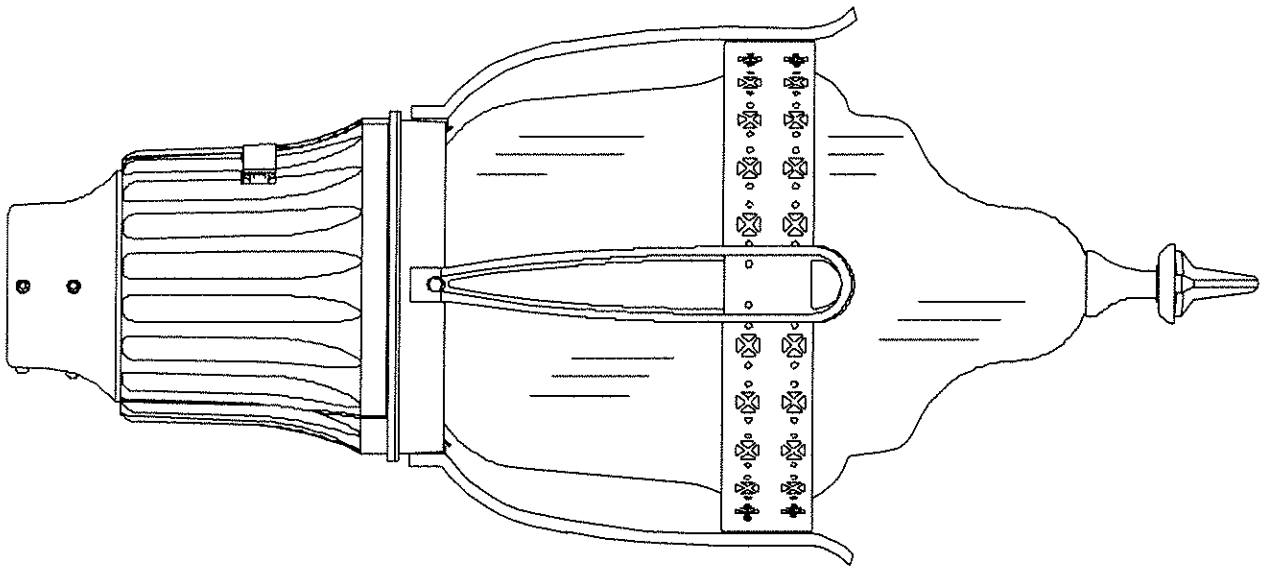
**Type “A” Standard Luminaire Ribs and Band Kit**

**Shape/Design:** Rib & Band Assembly is to include 4 decorative vertical loop ribs spaced 90° apart which are connected to, and support a horizontal decorative band. Ribs & Band Kit is designed specifically for the City of Birmingham Standard Type “A” Luminaire which is the Holophane Granville II LED Classic Utility. **No alternate kits match the Birmingham Type “A” Standard Luminaire and are not acceptable.**

**Finish/Material:** Ribs & Band are aluminum construction and are to be Black in color. All hardware is to be stainless steel.

**UL Listed** and suitable for wet locations at a maximum of 40°C ambient temperature.

Ribs & Band Kit is a direct match for the Holophane Granville II LED Classic Utility



City of Birmingham  
Type "A" Standard Luminaire  
Ribs & Band Kit



Designer  
Scott Curtis

Date  
Feb. 2 2016

Scale

Drawing No.

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### **Single Decorative Luminaire Arm For Roadway Teardrop Luminaire Specification**

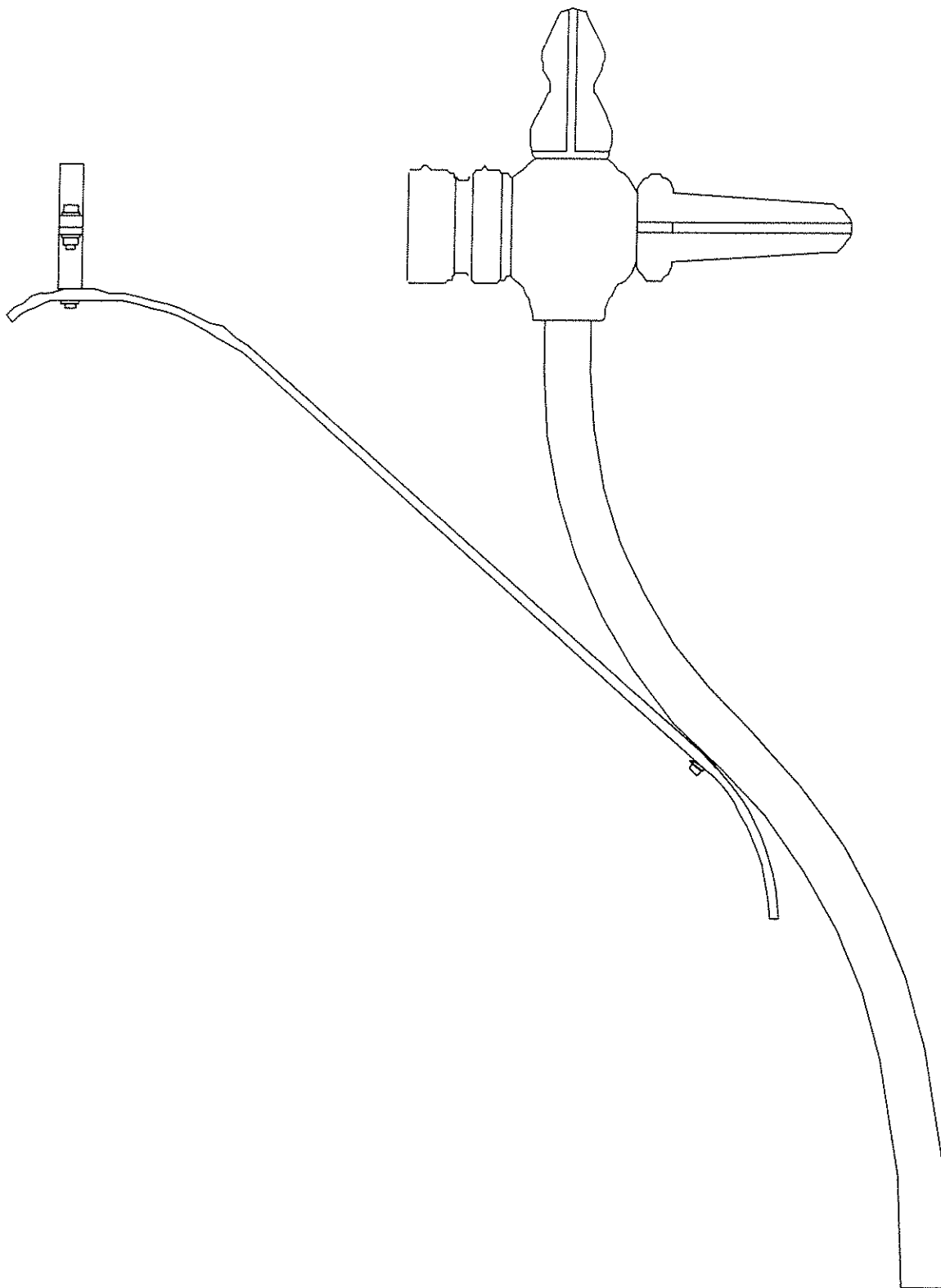
**General Description:** The decorative crossarm(s) shall be all aluminum construction with a decorative support strap and clamping bracket.

**Materials:** The crossarm fitter and arm holder(s) shall be heavy wall cast aluminum alloy. The arm(s) shall be of extruded aluminum pipe. The arm(s) shall be circumferentially welded to the arm holder(s). All mounting hardware shall be tamper resistant stainless steel.

**Dimensions:** The cast fitter is designed to slipfit a 3 inch O.D. by 5 inch tall tenon. The arm gracefully rises approximately 22 inches above the bottom of the fitter and has a span of 48 inches from center line of fitter to the end of the arm. Stainless steel set screws are located in the cast fitter for fastening the crossarm to the pole tenon. A clamping bracket is provided to attach the decorative support strap to the pole shaft. For twin crossarms, all symmetrical dimension are the same as on the single.

**Finish:** The crossarm shall be furnished with a powder coat finish.

Decorative Roadway Arm shall be at least equal in description and performance to the Holophane Boston Harbour 48" Decorative Arm.



City of Birmingham Standard  
Single Teardrop Luminaire Arm 48"



Designer  
Scott Curtis

Date  
Jan 8 2016

Scale

Drawing No.

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### **Double Decorative Luminaire Arm For Roadway Teardrop Luminaire Specification**

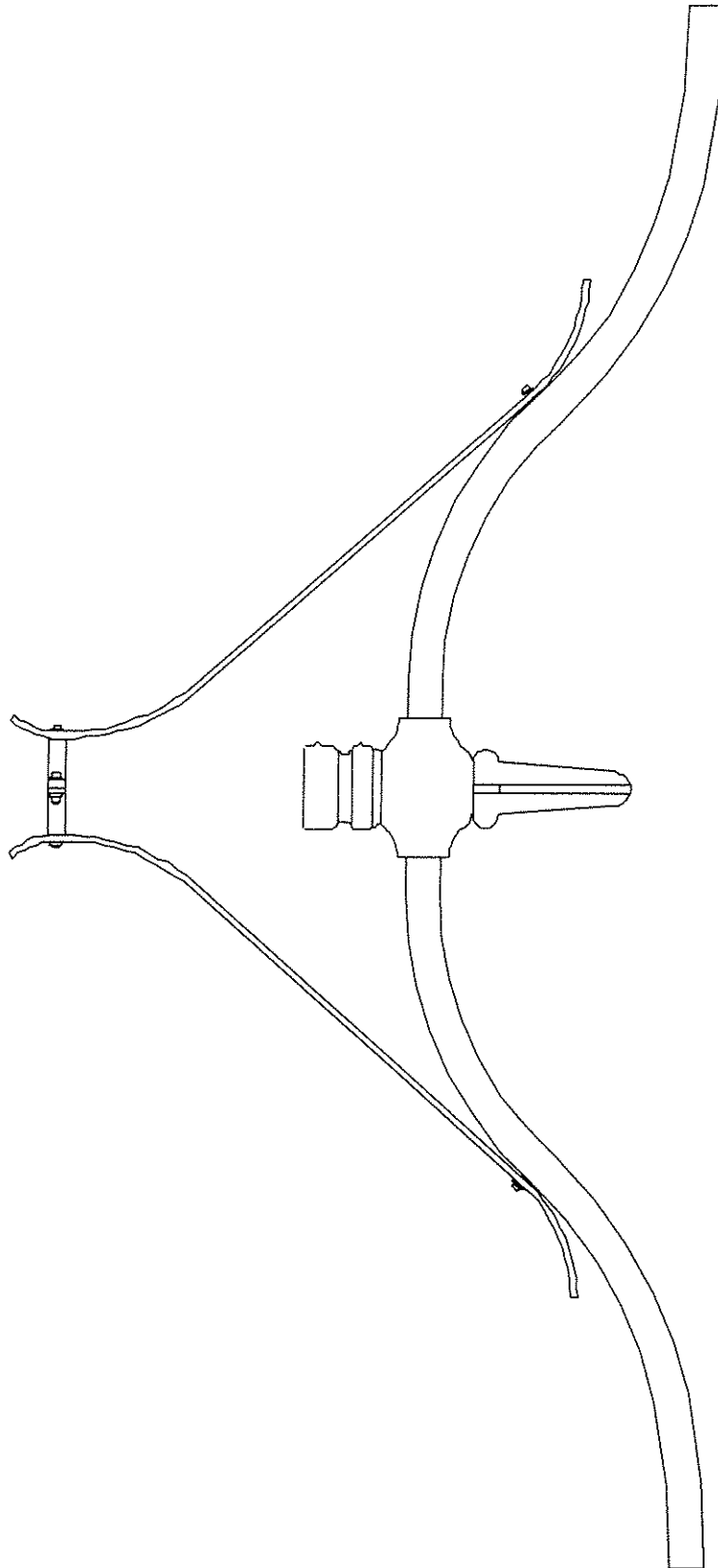
**General Description:** The Boston Harbour decorative crossarm(s) shall be all aluminum construction with a decorative support strap and clamping bracket.

**Materials:** The crossarm fitter and arm holder(s) shall be heavy wall cast aluminum alloy. The arm(s) shall be of extruded aluminum pipe. The arm(s) shall be circumferentially welded to the arm holder(s). All mounting hardware shall be tamper resistant stainless steel.

**Dimensions:** The cast fitter is designed to slipfit a 3 inch O.D. by 5 inch tall tenon. The arm gracefully rises approximately 22 inches above the bottom of the fitter and has a span of 96 inches from end to end. Stainless steel set screws are located in the cast fitter for fastening the crossarm to the pole tenon. A clamping bracket is provided to attach the decorative support strap to the pole shaft. For twin crossarms, all symmetrical dimension are the same as on the single.

**Finish:** The crossarm shall be furnished with a powder coat finish.

Crossarm shall be at least equal in description and performance to the Holophane Boston Harbour Decorative Roadway Arm.



City of Birmingham Standard  
Double Teardrop Luminaire Arm 96"



Designer  
Scott Curtis

Date  
Jan 8 2016

Scale

Drawing No.

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**Decorative Luminaire Arm For  
Pedestrian Teardrop Luminaire Specification**

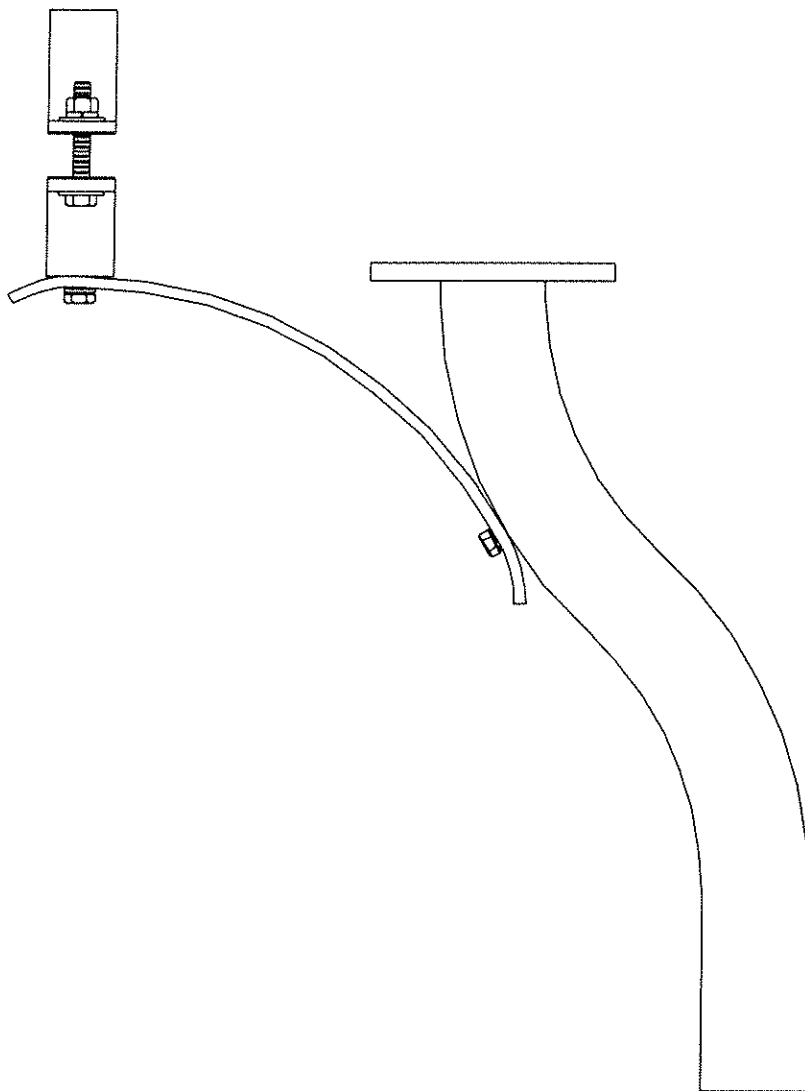
**General Description:** The decorative crossarm(s) shall be all aluminum construction with a decorative support strap and clamping bracket.

**Materials:** The arm end plate shall be heavy wall cast aluminum alloy. The arm(s) shall be of extruded aluminum pipe. The arm(s) shall be circumferentially welded to the end plate. All mounting hardware shall be tamper resistant stainless steel.

**Dimensions:** The arm is designed to bolt to the side of the pole. The arm has a span of 24 inches from mounting plate to end of arm. A clamping bracket is provided to attach the decorative support strap to the pole shaft.

**Finish:** The crossarm shall be furnished with a powder coat finish.

Crossarm shall be at least equal in description and performance to the Holophane Boston Harbour 24" Decorative Pedestrian Arm.



City of Birmingham Standard  
Pedestrian Teardrop Arm 24"



Designer  
Scott Curtis

Date  
Jan 8 2016

Scale

Drawing No.

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## Standard Decorative Arm Fitter Specification

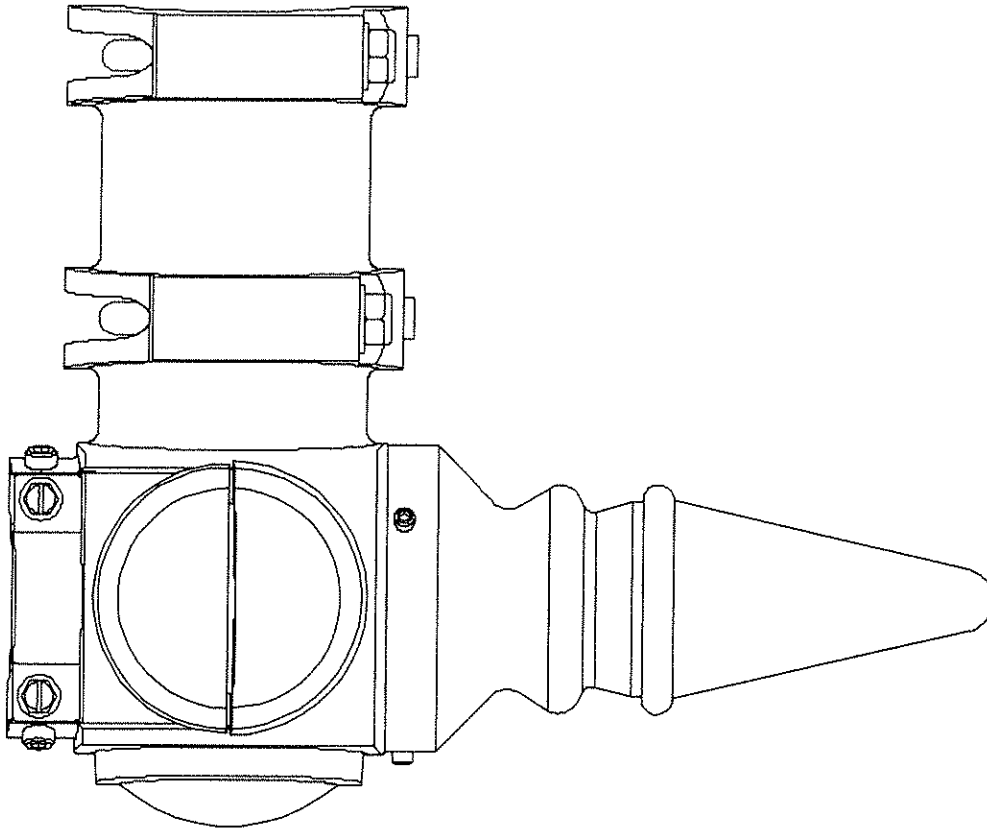
**General Description:** The arm fitter is the West Liberty style and is designed to replicate the look of period cast arm mounts.

**Materials:** The fitter body, top cover, and door assembly shall be heavy wall cast aluminum. All mounting and locking hardware shall be stainless steel.

**Installation:** The fitter is designed to be used with luminaires having a welded top mount stem. The contoured door (with integral lanyard) is removed to allow the stem to engage inside the fitter. The door is replaced to capture the luminaire stem. The fitter is provided with (2) LI-bolts, washers and nuts and (2) leveling set screws that lock the fitter to a nominal 2" horizontal arm and allow a +/- 5 degree adjustment from horizontal to the fitter. The swivel action on the stem allows for +/- 4 degree adjustment from vertical. Three (3) set screws lock the threaded male connector in place. The cast top cover can be removed to allow access to the inside of the fitter to facilitate wire connections. Three (3) set screws lock the cover to the fitter.

**Finish:** The fitter is finished with a polyester powder paint applied after a seven stage pretreatment process to insure maximum durability.

Fitter shall be at least equal in description and performance to the Holophane West Liberty Style Decorative Arm Fitter.



Birmingham Standard  
Decorative Arm Fitter  
For Use with Quick Lock Stem  
Mounting Luminaires  
(All New Installations)



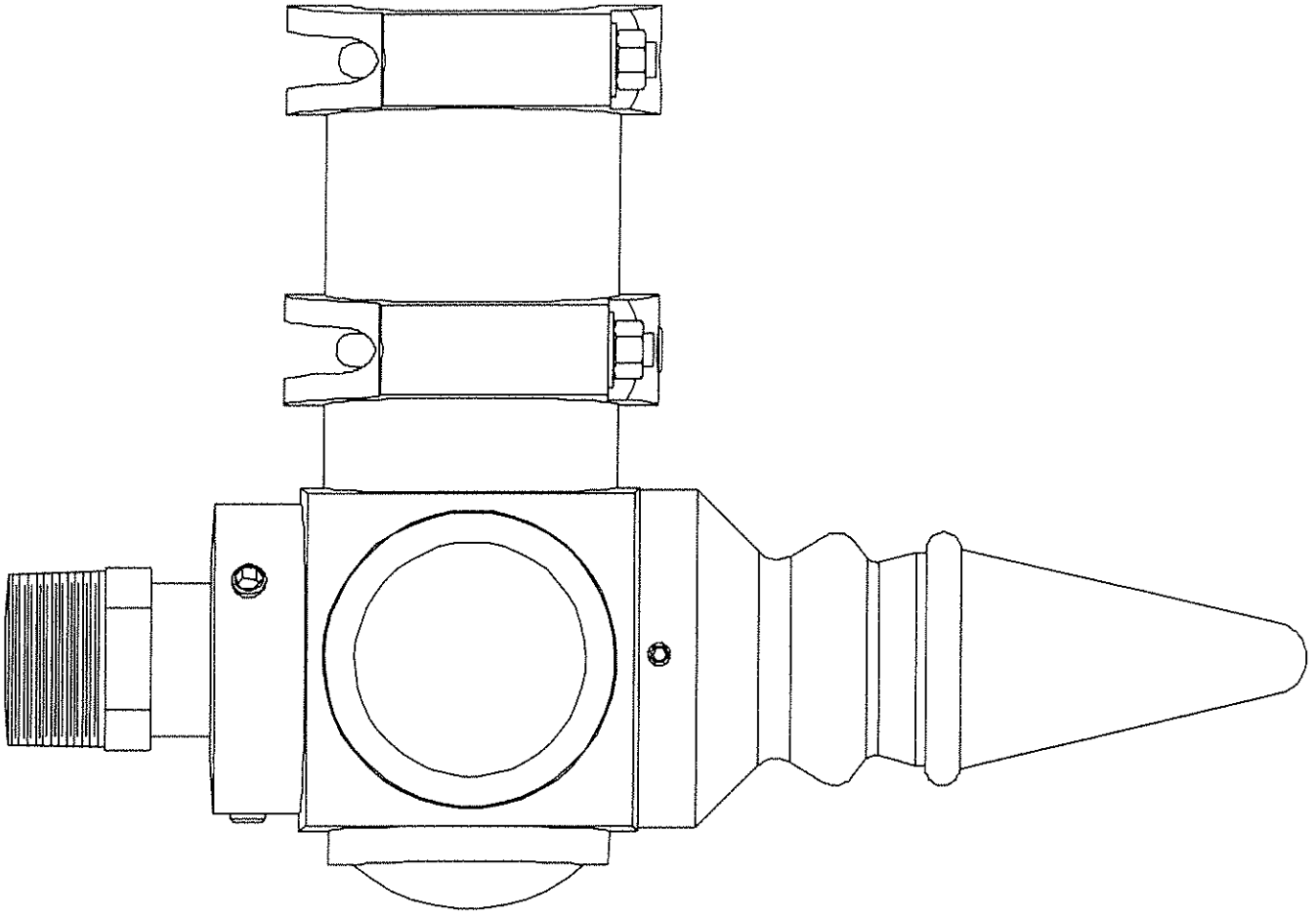
Designer  
Scott Curtis

Date  
Jan 8 2016

Scale

Drawing No.

1 of 2



## Birmingham Standard

Decorative Arm Fitter  
For Use with 1-1/2" NPT  
Top Mounting Luminaires  
(All Existing Installations)



Designer  
Scott Curtis

Date  
Jan 8 2016

Scale

Drawing No.

2 of 2

**Double Luminaire Crossarm Median Pole Crossarm  
For Type "A", Type "A" Large or "B" Luminaires Specification**

**Architectural Outdoor Posttop Crossarm**

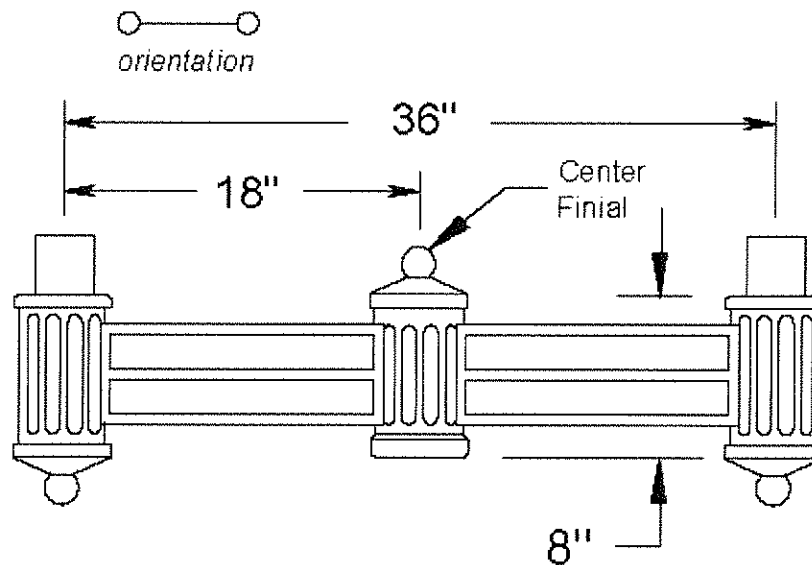
**Style/Shape/Dimensions:** The crossarm shall be of a simple straight and fluted/ribbed design. The crossarm shall be a twin design to accommodate two luminaires. Crossarm shall have a center tenon and finial. Luminaire tenons shall be on 36" centers. **Crossarms shall exactly match specifications of drawing below.**

**Construction:** The crossarm shall be one-piece construction. For wall brackets the arm. All welding shall be per ANSI/AWS D1.2-90. All welders shall be certified per ANSI/AWS D1.2-90 Section 5.

**Materials:** The crossarm and crossarm finials shall be heavy wall, cast aluminum produced from certified ASTM 356.1 ingot per ASTM B-179-95a or ASTM B26-95. The center luminaire extension piece shall be aluminum, ASTM 6061 alloy, heat treated to a T6 temper. All hardware shall be stainless steel. All exterior hardware shall be tamper resistant.

**Installation:** The crossarm shall slip-fit a post top tenon and attach with socket set screws. The center finial shall be removable. Crossarms shall have 3" O.D. tenons for luminaire mounting.

Finish specification and color shall be black per City of Birmingham Standard, Holophane Philadelphia 36" Post Top Crossarm or equal.



**I-20/59 Roadway Steel  
Twin Bullhorn Specification**

**Infrastructure Roadway Steel Twin Bullhorn**

**Description:**

\*Bullhorn shall have round U shaped vertical “tenons”. Distance center to center between tenons shall be 36”. Vertical luminaire tenons shall be 2” diameter. Bullhorn shall have a 2½” slipfitter to mount to pole top tenon. Bullhorn shall match the currently installed ALDOT and City of Birmingham Infrastructure Twin Luminaire Bullhorn.

\*Bullhorn vertical arms are to be 2” Schedule 40 steel.

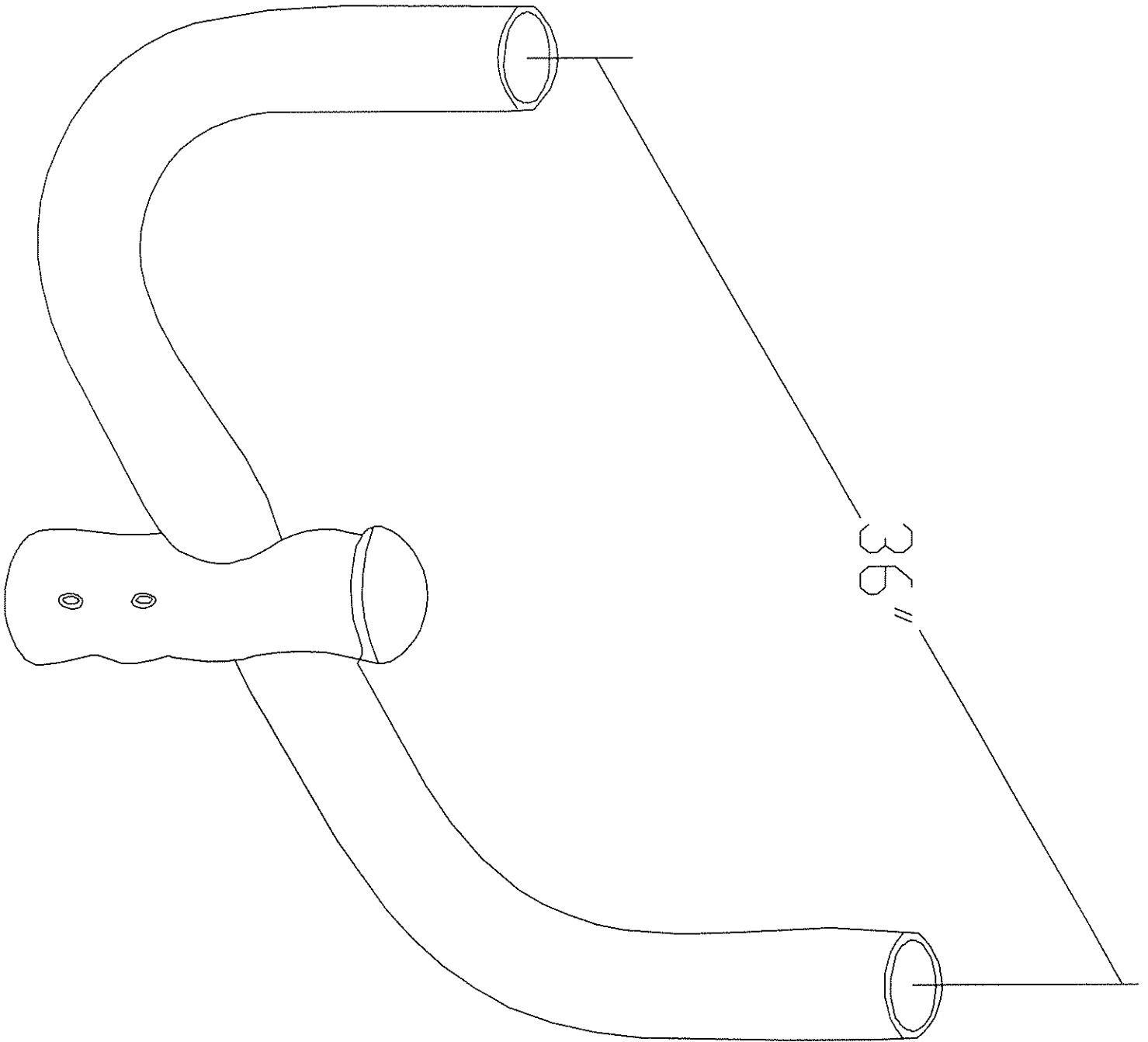
\*Pole top tenon slipfitter shall include two pair of ¾-16 set screws at 90° to securely fasten to pole top.

\*Bullhorn shall be galvanized steel.

\*Center slipfitter shall include removable top for wiring access.

\*Bullhorn shall include all mounting hardware.

\*Specific catalog number is BKT-18-HG.



City of Birmingham  
I-20/I-59 Roadway  
Twin Bullhorn

**Designer**  
Scott Curtis

**Date**  
Feb 21 2016

**Scale**

**Drawing No.**

1 of 1

## 12' Cast Aluminum Decorative Pole Specification

### 12 Foot Architectural Pole

**Shape:** Pole will be a match to the currently installed Birmingham Standard Poles.

**Description:** The lighting post shall be all aluminum, one-piece construction, with a classic tapered and fluted base design and a 4" diameter, 12-flute cast shaft.

**Materials:** The base shall be heavy wall, copper free, cast aluminum produced from certified ASTM 356.1 ingot per ASTM B-179-95a or ASTM B26-95. The casting shall be formed true to the pattern with complete detail. The straight shaft shall be extruded from aluminum, ASTM 6061 alloy, heat treated to a T6 temper. All hardware shall be tamper resistant stainless steel. Anchor bolts to be completely hot dip galvanized.

**Construction:** The cast shaft shall be double welded to the base casting and shipped as one piece for maximum structural integrity. The shaft shall be welded inside the base casting at the top of the access door, and externally where the shaft exits the base. **Separate shaft and clamshell base are not acceptable.** All exposed welds below 8' shall be ground smooth. All welding shall be per ANSI/AWS D1.2-90. All welders shall be certified per Section 5 of ANSI/AWS D1.2-90. Preparation and paint shall coordinate with the fixture and shall be black in color to match.

**Receptacle:** A small, in-use wet location weatherproof receptacle/cover shall be provided at the top of the post. It shall be 20 amp, 125 volt, ground circuit interrupter duplex type. The receptacle shall be UL Listed according to E-48380 and UL 943 Class A and UL 498. The receptacle shall have a cast aluminum, lockable UL Listed cover that is suitable for wet locations while in use and complies with NEC Article 410-57(b). The cover shall accept most common cord sets up to 3/8" diameter (14/3). The receptacle and cover shall mount to an outlet opening, in the post shaft, with a gasket and stainless steel screws.

**Dimensions:** Post shall be 12' - 0" in height with a 17" diameter base. The base vertical dimension shall be 25". The shaft shall be 4" in diameter. An integral 3" O.D. tenon shall be provided at the top for luminaire mounting. The post top shall include a transitional donut between the fluted shaft and the tenon.

**Installation:** The post shall be provided with four, hot dip galvanized L-type anchor bolts to be installed on a 12" bolt circle. A 3" x 5" x 4.5" H door shall be provided in the base for anchorage and wiring access. A grounding screw shall be provided inside the base opposite the door.

Post shall be a direct mechanical match to the specified Birmingham Standard Post Top Fixture.

## 14' Cast Aluminum Decorative Pole Specification

### 14 Foot Architectural Pole

**Shape:** Pole will be a match to the currently installed Birmingham Standard Poles.

**Description:** The lighting post shall be all aluminum, one-piece construction, with a classic tapered and fluted base design and a 4" diameter, 12-flute cast shaft.

**Materials:** The base shall be heavy wall, copper free, cast aluminum produced from certified ASTM 356.1 ingot per ASTM B-179-95a or ASTM B26-95. The casting shall be formed true to the pattern with complete detail. The straight shaft shall be extruded from aluminum, ASTM 6061 alloy, heat treated to a T6 temper. All hardware shall be tamper resistant stainless steel. Anchor bolts to be completely hot dip galvanized.

**Construction:** The cast shaft shall be double welded to the base casting and shipped as one piece for maximum structural integrity. The shaft shall be welded inside the base casting at the top of the access door, and externally where the shaft exits the base. **Separate shaft and clamshell base are not acceptable.** All exposed welds below 8' shall be ground smooth. All welding shall be per ANSI/AWS D1.2-90. All welders shall be certified per Section 5 of ANSI/AWS D1.2-90. Preparation and paint shall coordinate with the fixture and shall be black in color to match.

**Receptacle:** A small, in-use wet location weatherproof receptacle/cover shall be provided at the top of the post. It shall be 20 amp, 125 volt, ground circuit interrupter duplex type. The receptacle shall be UL Listed according to E-48380 and UL 943 Class A and UL 498. The receptacle shall have a cast aluminum, lockable UL Listed cover that is suitable for wet locations while in use and complies with NEC Article 410-57(b). The cover shall accept most common cord sets up to 3/8" diameter (14/3). The receptacle and cover shall mount to an outlet opening, in the post shaft, with a gasket and stainless steel screws.

**Dimensions:** Post shall be 14' - 0" in height with a 17" diameter base. The base vertical dimension shall be 25". The shaft shall be 4" in diameter. An integral 3" O.D. tenon shall be provided at the top for luminaire mounting. The post top shall include a transitional donut between the fluted shaft and the tenon.

**Installation:** The post shall be provided with four, hot dip galvanized L-type anchor bolts to be installed on a 12" bolt circle. A 3" x 5" x 4.5" H door shall be provided in the base for anchorage and wiring access. A grounding screw shall be provided inside the base opposite the door.

Post shall be a direct mechanical match to the specified Birmingham Standard Post Top Fixture.



## 16' Cast Aluminum Decorative Pole Specification

### 16 Foot Architectural Pole

**Shape:** Pole will be a match in style to the currently installed Birmingham Standard Poles.

**Description:** The lighting post shall be all aluminum, one-piece construction, with a classic tapered and fluted base design and a 5" diameter, 12-flute cast shaft.

**Materials:** The base shall be heavy wall, copper free, cast aluminum produced from certified ASTM 356.1 ingot per ASTM B-179-95a or ASTM B26-95. The casting shall be formed true to the pattern with complete detail. The straight shaft shall be extruded from aluminum, ASTM 6061 alloy, heat treated to a T6 temper. All hardware shall be tamper resistant stainless steel. Anchor bolts to be completely hot dip galvanized.

**Construction:** The cast shaft shall be double welded to the base casting and shipped as one piece for maximum structural integrity. The shaft shall be welded inside the base casting at the top of the access door, and externally where the shaft exits the base. **Separate shaft and clamshell base are not acceptable.** All exposed welds below 8' shall be ground smooth. All welding shall be per ANSI/AWS D1.2-90. All welders shall be certified per Section 5 of ANSI/AWS D1.2-90. Preparation and paint shall coordinate with the fixture and shall be black in color to match.

**Receptacle:** A small, in-use wet location weatherproof receptacle/cover shall be provided at the top of the post. It shall be 20 amp, 125 volt, ground circuit interrupter duplex type. The receptacle shall be UL Listed according to E-48380 and UL 943 Class A and UL 498. The receptacle shall have a cast aluminum, lockable UL Listed cover that is suitable for wet locations while in use and complies with NEC Article 410-57(b). The cover shall accept most common cord sets up to 3/8" diameter (14/3). The receptacle and cover shall mount to an outlet opening, in the post shaft, with a gasket and stainless steel screws.

**Dimensions:** Post shall be 16' - 0" in height with a 17" diameter base. The base vertical dimension shall be 25". The shaft shall be 4" in diameter. An integral 3" O.D. tenon shall be provided at the top for luminaire mounting. The post top shall include a transitional donut between the fluted shaft and the tenon.

**Installation:** The post shall be provided with four, hot dip galvanized L-type anchor bolts to be installed on a 12" bolt circle. A 3" x 5" x 4.5" H door shall be provided in the base for anchorage and wiring access. A grounding screw shall be provided inside the base opposite the door.

Post shall be a direct mechanical match to the specified Birmingham Standard Post Top Fixture.

**18' Cast Iron & Steel Decorative Pole Specification  
17" Diameter Base For Post Top Luminaire**

**18 Foot Architectural Pole with 17" Diameter Base**

**Shape:** Pole will be a match to the currently installed Birmingham Standard Poles.

**Description:** Post is to be all cast iron and steel construction, massively tapered with a deep, 16-fluted pattern on the shaft & base.

**Material:** The post base material shall be ASTM A48 Class 30 cast iron, formed true to the pattern with complete detail. The shaft shall be tapered and fluted steel with an integral steel tenon and steel bottom cap. All hardware shall be tamper resistant stainless steel. Anchor bolts are to be completely hot dip galvanized. Partially galvanized bolts are not acceptable. **Poles that do not combine cast iron base and steel shaft are not acceptable.**

**Construction:** The cast shaft shall be circumferentially welded to the base casting and shipped as one piece for maximum structural integrity. **Separate shaft and clamshell base are not acceptable.** Preparation and paint shall coordinate with the fixture and shall be Black in color.

**Receptacle:** A small, in-use wet location weatherproof receptacle/cover shall be provided at the top of the post. It shall be 20 amp, 125 volt, ground circuit interrupter duplex type. The receptacle shall be UL Listed according to E-48380 and UL 943 Class A and UL 498. The receptacle shall have a cast aluminum, lockable UL Listed cover that is suitable for wet locations while in use and complies with NEC Article 410-57(b). The cover shall accept most common cord sets up to 3/8" diameter (14/3). The receptacle and cover shall mount to an outlet opening, in the post shaft, with a gasket and stainless steel screws.

**Dimensions:** The post shall be 18' in height with a 17" diameter base. The shaft shall taper from a 07" at the top of the base to 04.5" at the top. An integral tenon shall be provided at the top for luminaire mounting. The post top shall include a transitional donut between the fluted shaft and the tenon.

**Installation:** The post shall be provided with four 3/4" DIA, hot dip galvanized L-type anchor bolts. A door shall be provided in the base for anchorage and wiring access. A grounding screw shall be provided inside the base opposite the door.

**Installation:** The post shall be provided with four, hot dip galvanized L-type anchor bolts to be installed on a 12" bolt circle. A 4" x 6" x 6.25" H door shall be provided in the base for anchorage and wiring access. A grounding screw shall be provided inside the base opposite the door.

Post shall be a direct mechanical match to the Birmingham Standard Teardrop Fixture.

Post shall be at least equal in description and performance to the Holophane North Yorkshire Cast Iron & Steel Pole.

**18' Cast Iron & Steel Decorative Pole Specification  
20" Diameter Base For Teardrop Luminaire**

**18 Foot Architectural Pole with 20" Diameter Base**

**Shape:** Pole will be a match to the currently installed Birmingham Standard Poles.

**Description:** Post is to be all cast iron and steel construction, massively tapered with a deep, 16-fluted pattern on the shaft & base.

**Material:** The post base material shall be ASTM A48 Class 30 cast iron, formed true to the pattern with complete detail. The shaft shall be tapered and fluted steel with an integral steel tenon and steel bottom cap. All hardware shall be tamper resistant stainless steel. Anchor bolts are to be completely hot dip galvanized. Partially galvanized bolts are not acceptable. **Poles that do not combine cast iron base and steel shaft are not acceptable.**

**Construction:** The cast shaft shall be circumferentially welded to the base casting and shipped as one piece for maximum structural integrity. **Separate shaft and clamshell base are not acceptable.** Preparation and paint shall coordinate with the fixture and shall be Black in color.

**Receptacle:** A small, in-use wet location weatherproof receptacle/cover shall be provided at the top of the post. It shall be 20 amp, 125 volt, ground circuit interrupter duplex type. The receptacle shall be UL Listed according to E-48380 and UL 943 Class A and UL 498. The receptacle shall have a cast aluminum, lockable UL Listed cover that is suitable for wet locations while in use and complies with NEC Article 410-57(b). The cover shall accept most common cord sets up to 3/8" diameter (14/3). The receptacle and cover shall mount to an outlet opening, in the post shaft, with a gasket and stainless steel screws.

**Dimensions:** The post shall be 18' in height with a 20" diameter base. The shaft shall taper from a 07" at the top of the base to 04.5" at the top. An integral tenon shall be provided at the top for luminaire mounting. The post top shall include a transitional donut between the fluted shaft and the tenon.

**Installation:** The post shall be provided with four 3/4" DIA, hot dip galvanized L-type anchor bolts. A door shall be provided in the base for anchorage and wiring access. A grounding screw shall be provided inside the base opposite the door.

**Installation:** The post shall be provided with four, hot dip galvanized L-type anchor bolts to be installed on a 15" bolt circle. A 4" x 6" x 6.25" H door shall be provided in the base for anchorage and wiring access. A grounding screw shall be provided inside the base opposite the door.

Post shall be a direct mechanical match to the Birmingham Standard Teardrop Fixture.

Post shall be at least equal in description and performance to the Holophane North Yorkshire Cast Iron & Steel Pole.

**23' Cast Iron & Steel Decorative Pole Specification  
With 20" Base for Teardrop Luminaire**

**23 Foot Architectural Pole with 20" Base**

**Shape:** Pole will be a match to the currently installed Birmingham Standard Poles.

**Description:** Post is to be all cast iron and steel construction, massively tapered with a deep, 16-fluted pattern on the shaft & base.

**Material:** The post base material shall be ASTM A48 Class 30 cast iron, formed true to the pattern with complete detail. The shaft shall be tapered and fluted steel with an integral steel tenon and steel bottom cap. All hardware shall be tamper resistant stainless steel. Anchor bolts are to be completely hot dip galvanized. Partially galvanized bolts are not acceptable. **Poles that do not combine cast iron base and steel shaft are not acceptable.**

**Construction:** The cast shaft shall be circumferentially welded to the base casting and shipped as one piece for maximum structural integrity. **Separate shaft and clamshell base are not acceptable.** Preparation and paint shall coordinate with the fixture and shall be Black in color.

**Receptacle:** A small, in-use wet location weatherproof receptacle/cover shall be provided at the top of the post. It shall be 20 amp, 125 volt, ground circuit interrupter duplex type. The receptacle shall be UL Listed according to E-48380 and UL 943 Class A and UL 498. The receptacle shall have a cast aluminum, lockable UL Listed cover that is suitable for wet locations while in use and complies with NEC Article 410-57(b). The cover shall accept most common cord sets up to 3/8" diameter (14/3). The receptacle and cover shall mount to an outlet opening, in the post shaft, with a gasket and stainless steel screws.

**Dimensions:** The post shall be 22' – 10" in height with a 20" diameter base. The shaft shall taper from a 07" at the top of the base to 04.5" at the top. An integral tenon shall be provided at the top for luminaire mounting. The post top shall include a transitional donut between the fluted shaft and the tenon.

**Installation:** The post shall be provided with four 3/4" DIA, hot dip galvanized L-type anchor bolts. A door shall be provided in the base for anchorage and wiring access. A grounding screw shall be provided inside the base opposite the door.

**Installation:** The post shall be provided with four, hot dip galvanized L-type anchor bolts to be installed on a 15" bolt circle. A 4" x 6" x 6.25" H door shall be provided in the base for anchorage and wiring access. A grounding screw shall be provided inside the base opposite the door.

Post shall be a direct mechanical match to the Birmingham Standard Teardrop Fixture.

Post shall be at least equal in description and performance to the Holophane North Yorkshire Cast Iron & Steel Pole.

**25', 30', 35', 39', 45' & 50' Round Tapered  
Steel I-20/59 Roadway Pole Specification**

**Infrastructure Round Tapered Steel Pole**

**Shape:** Pole shall match the currently installed ALDOT and City of Birmingham Infrastructure Round Tapered Steel Poles.

**Construction:** Welds conform to applicable AWS structural welding code. Pole shaft is one piece, low carbon alloy steel per ASTM A595, Grade A with 55,000-PSI minimum yield strength. Pole base shall be per minimum, cover and fasteners are included. Base covers shall be two piece, interlocking construction. Finish shall match pole. Removable pole cap shall be provided with each drill pattern type pole. Non-structural fasteners shall be stainless steel.

**Finish:** Galvanized poles per ASTM A123. Painted poles shall be semi-gloss powder paint.

**Grounding:** Grounding provision shall be immediately accessible through hand hole, ½-13 threads.

**Anchor Bolts:** Steel anchor bolts shall be per AASHTO M314 or ASTM F 1554 - Grade 55, hot dip galvanize. Nuts and washers shall be per AASHTO M314-90 or ASTM F 1554 - hot dip galvanized.

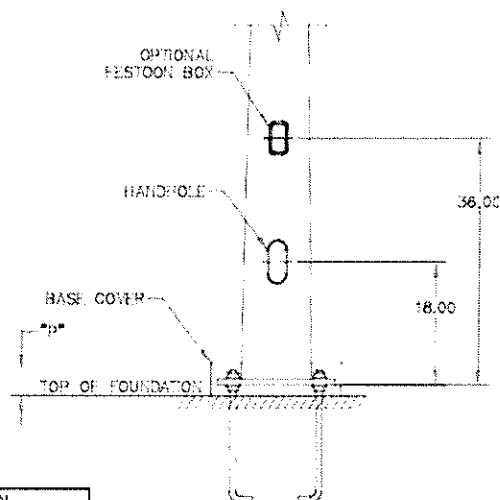
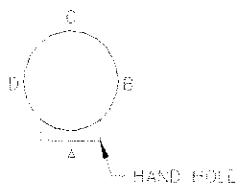
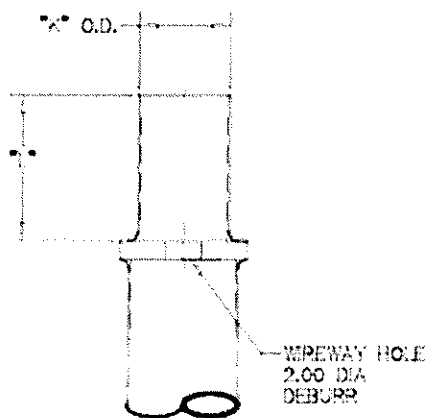
RTS ROUND TAPERED STEEL POLES					2009 AAASHTO Rating							
					90 mph		100 mph		110 mph			
Ref Item No	Base Pole Number	Nominal Pole Height	Nominal Shaft Size & Wall Thickness	EPA Vertical Offset from Top of Pole	Max EPA	Max Wt.	Max EPA	Max Wt.	Max EPA	Max Wt.	Bolt Circle Dia.	Anchor Bolt Size
1	RTS2559B	25	5.9 x 2.4 x 11 Ga.	0"	15.6	390	12.6	315	10.2	255	9.00	1.00 x 36 + 4
				30"	13.0	325	10.8	270	8.8	220		
2	RTS3066B	30	6.6 x 2.4 x 11 Ga.	0"	14.6	365	11.8	295	9.6	240	9.50	1.00 x 36 + 4
				30"	12.2	305	10.2	255	8.4	210		
5	RTS3573B	35	7.3 x 2.4 x 11 Ga.	0"	13.6	340	11.0	275	9.0	225	10.50	1.00 x 36 + 4
				30"	11.8	295	9.6	240	8.0	200		
6	RTS3978B	39	7.8 x 2.4 x 11 Ga.	0"	12.4	310	9.6	240	7.6	190	11.00	1.00 x 36 + 4
				30"	11.0	275	9.0	225	7.0	175		
12	RTS4510B	45	10.0 x 3.7 x 11 Ga.	0"	11.6	290	8.6	215	6.6	165	13.50	1.00 x 36 + 4
				30"	10.8	270	8.0	200	6.2	155		
12	RTS5010B	50	10.0 x 3.0 x 11 Ga.	0"	8.6	215	6.2	155	4.4	110	13.50	1.00 x 36 + 4
				30"	8.2	205	5.8	145	4.2	105		

Item No	Bolt Circle Dia.	Min Base Size "D"	Base Thk "T"	Bolt Projection	Anchor Bolt Set	Bolt Circle Template
1	9.00	10.00	0.88	3.88 - 4.38	AB-27-4	TMP-41
2	9.50	10.50	0.88	3.88 - 4.38	AB-27-4	TMP-42
5	10.50	11.25	0.88	3.88 - 4.38	AB-27-4	TMP-44
6	11.00	11.50	0.88	3.88 - 4.38	AB-27-4	TMP-45
12	13.50	14.00	1.00	4.00 - 4.50	AB-27-4	TMP-50

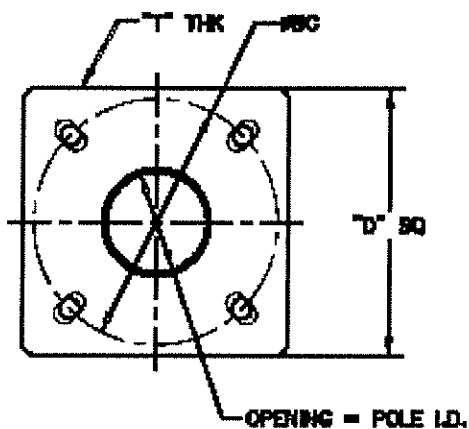
# RTS/AORTS

## ROUND TAPERED STEEL POLES 2009 AASHTO RATED

### POLE TOP STYLE DRILL PATTERN



POLE TOP STYLE		ORIENTATION
D1	1 UNIT	C
D2	2 UNITS @ 180	B,D
D3	3 UNITS @ 90	B,C,D
D4	4 UNITS @ 90	A,B,C,D
D5	2 UNITS @ 90	B,C



### BASE DETAIL

Submitted by Lighting Partnership



**Job Name:**  
Birmingham Barons Ballpark

**Catalog Number:**  
RSA-4.5-14-GREY

Notes:

**Type:**

**Y**

LPAL12-15215

# Round Straight Pole

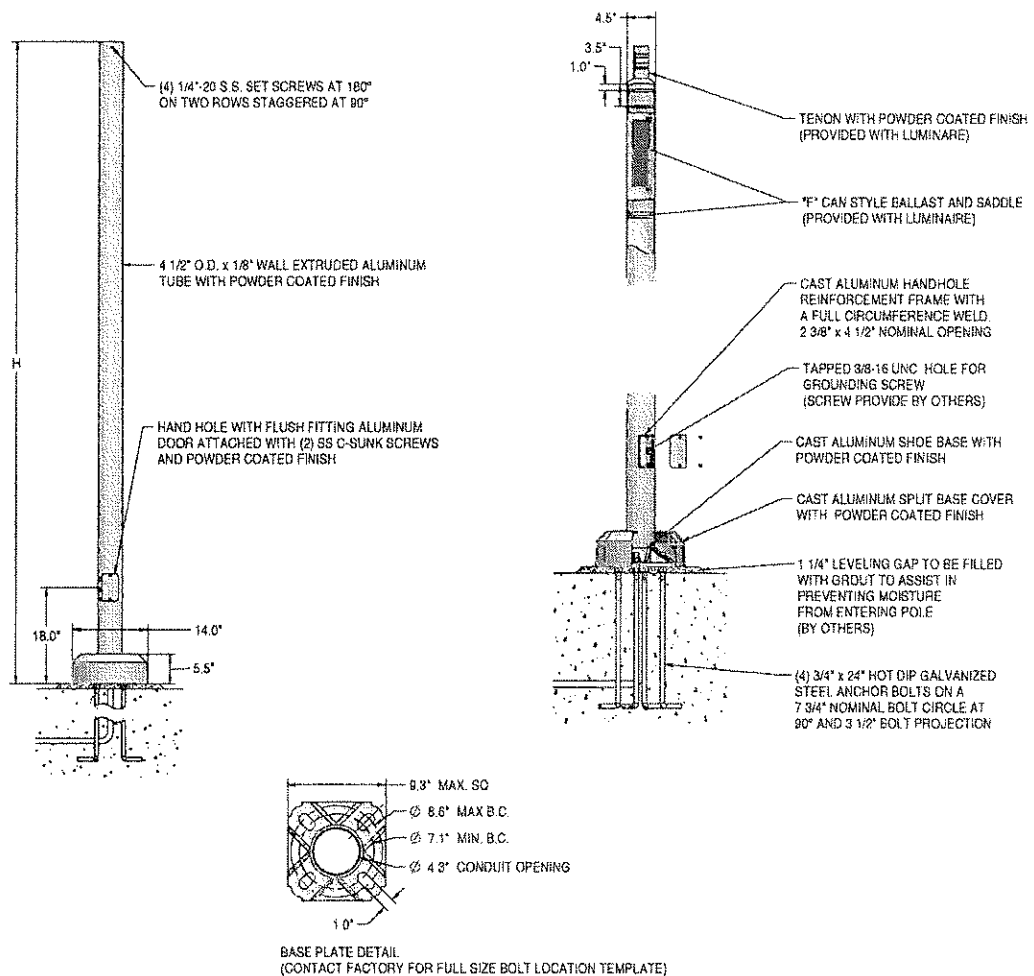
4.5"

Design: Louis Poulsen Lighting A/S

Type:

Project:

Catalog Number:



**louis poulsen**

Louis Poulsen Lighting, Inc., 3260 Meridian Parkway, Fort Lauderdale, FL 33331  
Telephone: (954) 349-2525 Fax: (954) 349-2550 [www.louispoulsen.com](http://www.louispoulsen.com)



Submitted by Lighting Partnership


**Job Name:**  
Birmingham Barons Ballpark

**Catalog Number:**  
RSA-4.5-14-GREY

Notes:

Type:

Y

LPAL12-15215

# Round Straight Pole

## EPA QUICK REFERENCE CHART:

CATALOG No.	H"	BOLTS PROJ.	BOLTS CIRCLE	EFFECTIVE PROJECTED AREA (EPA) IN SF AT:				
				70 MPH	80 MPH	90 MPH	100 MPH	110 MPH
RSA 4.5"	10'-0"	3 1/2"	8.0" D.	12.5	9.2	7.1	5.6	4.6
RSA 4.5"	12'-0"			9.8	7.1	5.3	4.2	3.4
RSA 4.5"	14'-0"			7.6	6.3	3.5	2.6	1.9

TOTAL EPA OF POSTTOP ARM AND LUMINAIRE, MUST BE LESS THEN OR EQUAL TO EPA GIVEN FOR WIND VELOCITY ZONE

Design: Louis Poulsen Lighting A/S

Finish: Brushed aluminum, Black, graphite grey, grey, natural painted aluminum or white, powder coated.

Material: Aluminum.

Mounting: Installation: Refer to technical specification sheet for mounting details.

Product code	Dimensions	Finish
RSA-4.5"	10'	BLK
	12'	BR ALU
	14'	GRAPH
		GREY
		NAT PAINT ALU
		WHIT

**louis  
poulsen**

Louis Poulsen Lighting, Inc., 3260 Meridian Parkway, Fort Lauderdale, FL 33331  
Telephone: (954) 349-2525 Fax: (954) 349-2550 www.louis Poulsen.com







## ROUND STRAIGHT ALUMINUM (RA)

### POLE SHAFT

The pole shaft is a seamless 6063-T6 aluminum alloy extrusion having a uniform wall thickness of 0.156". The sides of the shaft may be drilled for mounting luminaire fixtures. All aluminum alloys shall comply with metallurgical and mechanical properties set forth in the Aluminum Association Standards.

### HANDHOLE

An oval reinforced gasketed handhole, having a nominal 2" x 4" or 3" x 5" inside opening, located 1'-6" above base, is standard on all poles. A grounding provision is located inside the handhole ring.

### BASE PLATE

The anchor base is cast from A356 alloy aluminum. The anchor base telescopes the pole shaft and is circumferentially welded top and bottom. All welds are performed in accordance with the American Welding Society specification AWS D1.2, latest edition.

### ANCHOR BOLT

Anchor bolts are fabricated from commercial quality hot rolled carbon steel bar that meets or exceeds a minimum yield strength of 55,000 psi. Four properly sized anchor bolts, each with two regular hex nuts and washers, are furnished and shipped with all poles unless otherwise specified. Anchor bolts shall have the threaded end galvanized a minimum of 8 inches in accordance with ASTM A-153. Fully galvanized anchor bolts are available upon request.

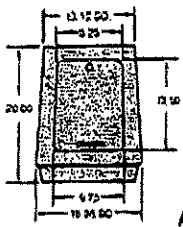
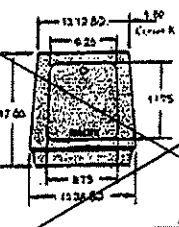
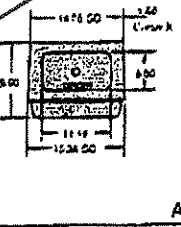
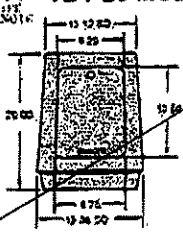
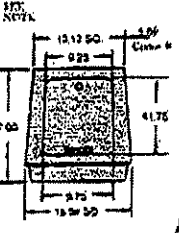
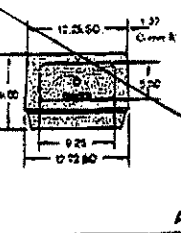
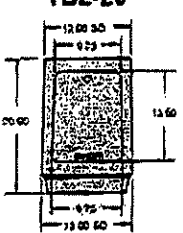
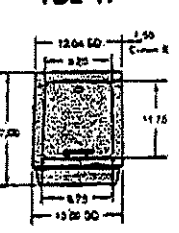
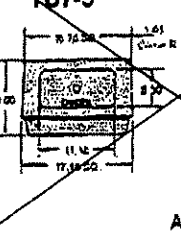
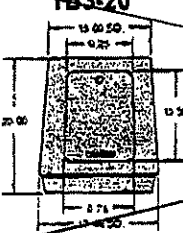
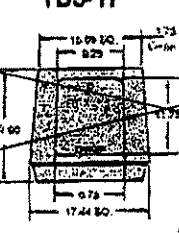
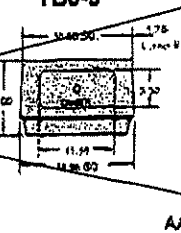
### FINISH

Standard - All exterior metal surfaces are mechanically cleaned to remove all oxides and contaminants prior to coating. The standard finish is a polyester thermosetting powder coating applied to the surface of the substrate to a minimum of 3 mils for all color finishes.



Parkside Bailpark Street Lighting Alts (Y1)						
RA6000920-GY-OT-BC						
CATALOG LOGIC			CODE	EXPLANATION		
Series:			RA	Round Smooth Aluminum		
Base Diameter:			600	6.0" Base Bottom Diameter		
Thickness:			09	0.156" wall thickness		
Nominal Height:			20	20 feet tall		
Finish:			GY	Gray		
Mounting Designation:			OT	Open Top		
Options:			BC	Base Cover		
HEIGHT (ft.)	POLE SHAFT (in.) x (ft.)	SHAFT THICKNESS (in.)	HANDHOLE SIZE (in.)	ANCHOR BOLT (in.) x (in.) x (in.)		BOLT CIRCLE (in.)
20	6.0 x 20.0	0.156	3" x 5"	1 x 3/8 x 4		10.5
EPA	90 MPH (ft. <sup>2</sup> )	90 MPH (ft. <sup>2</sup> )	100 MPH (ft. <sup>2</sup> )	110 MPH (ft. <sup>2</sup> )	WEIGHT	SHIP WT. (lbs.)
	10	7	5	3.5		81

# BREAKAWAY TRANSFORMER BASES

1975 AASHTO APPROVED	1985 AASHTO APPROVED	1985 AASHTO APPROVED
<b>TB1-20</b>  <p>This base features 11" to 13" top bolt circle and 13" to 15" bottom bolt circle. Stands 20" in height. Base can be ordered with hinged door option or with plastic access door.</p> <p>1975 AASHTO APPROVED</p>	<b>TB1-17</b>  <p>This base features 10 1/2" to 13 1/2" top bolt circle and 13" to 15" bottom bolt circle. Stands 17" in height. Base can be ordered with hinged door option or with plastic access door.</p> <p>1985 AASHTO APPROVED</p>	<b>TB6-9</b>  <p>This base features 14 1/2" to 15" top bolt circle and 13" to 15" bottom bolt circle. Stands 9" in height.</p> <p>1985 AASHTO APPROVED</p>
<b>TB1-20 MODIFIED</b>  <p>This base features 11" to 13" top bolt circle and 10 1/2" to 12 1/2" bottom bolt circle. Stands 20" in height. Base can be ordered with hinged door option or with plastic access door.</p> <p>1975 AASHTO APPROVED</p>	<b>TB1-17 MODIFIED</b>  <p>This base features 10 1/2" to 13 1/2" top bolt circle and 10 1/2" to 12 1/2" bottom bolt circle. Stands 17" in height. Base can be ordered with hinged door option or with plastic access door.</p> <p>1985 AASHTO APPROVED</p>	<b>TB6-9</b>  <p>This base features 10 1/2" to 12" top bolt circle and 10" to 12" bottom bolt circle. Stands 9" in height.</p> <p>1985 AASHTO APPROVED</p>
<b>TB2-20</b>  <p>This base features 10" to 12" top bolt circle and 10" to 12" bottom bolt circle. Stands 20" in height. Base can be ordered with hinged door option or with plastic access door.</p> <p>1975 AASHTO APPROVED</p>	<b>TB2-17</b>  <p>This base features 10" to 12" top bolt circle and 10" to 12" bottom bolt circle. Stands 17" in height. Base can be ordered with hinged door option or with plastic access door.</p> <p>1985 AASHTO APPROVED</p>	<b>TB7-9</b>  <p>This base features 16" top bolt circle and 15" to 17" bottom bolt circle. Stands 9" in height.</p> <p>NOT AASHTO APPROVED</p>
<b>TB3-20</b>  <p>This base features 13 1/2" to 15" top bolt circle and 15" to 17 1/2" bottom bolt circle. Stands 20" in height. Base can be ordered with hinged door option or with plastic access door.</p> <p>1975 AASHTO APPROVED</p>	<b>TB3-17</b>  <p>This base features 13" to 15" top bolt circle and 15" to 17 1/2" bottom bolt circle. Stands 17" in height. Base can be ordered with hinged door option or with plastic access door.</p> <p>1985 AASHTO APPROVED</p>	<b>TB8-9</b>  <p>This base features 16" to 18" top bolt circle and 16" to 21" bottom bolt circle. Stands 9" in height.</p> <p>NOT AASHTO APPROVED</p>



## AKRON FOUNDRY COMPANY

2728 WINGATE AVE.  
AKRON, OHIO 44314  
PH: 330-745-3101  
FAX: 330-745-7999

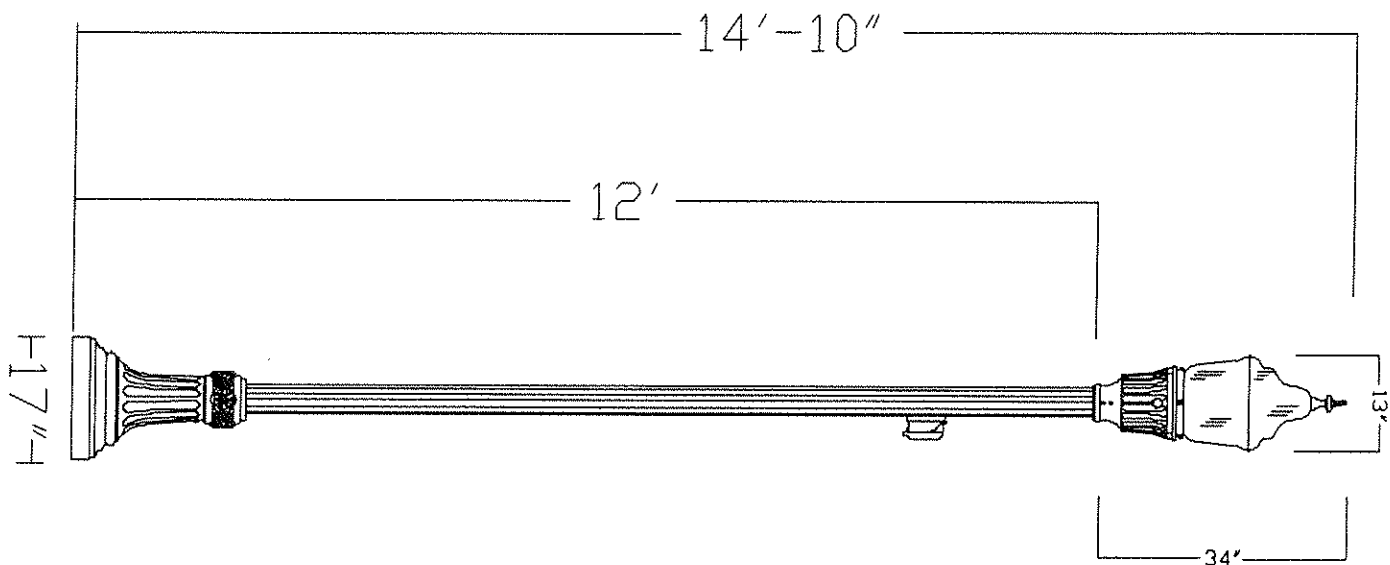
### ALL REQUIRED WASHERS ARE AVAILABLE

Part No.	Size
AF-W3	2 1/2" DIA. O.D. X 1 1/2" I.D. X 1/2" THICK
AF-W1	2 1/2" DIA. O.D. X 1 1/2" I.D. X 1/4" THICK
AF-W2	2 1/2" DIA. O.D. X 1 1/2" I.D. X 1/8" THICK
AF-W4	2 1/2" X 4 1/2" X 3/4" THICK RECTANGULAR (FOR 1 1/2" OR 1 3/4" I.D.)

★ NOTE:  
SPECIAL STACK PACK WASHERS  
ARE REQUIRED

FOR FHWA "ACCEPTANCE LETTERS" GO TO  
[http://safety.fhwa.dot.gov/roadway\\_dept/road\\_hardware/listing.cfm?code=human](http://safety.fhwa.dot.gov/roadway_dept/road_hardware/listing.cfm?code=human)

CAUTION: BEFORE INSTALLATION, USER SHOULD CONSULT WITH AUTHORIZED DISTRIBUTOR REGARDING USER'S PROPOSED APPLICATION, LOAD REQUIREMENTS AND INSTALLATION METHODS. FAILURES CAN RESULT FROM USER'S MISAPPLICATION OR IMPROPER INSTALLATION.  
**MADE IN THE U.S.A.**



Type "A" Standard Luminaire  
12' Pole

City of Birmingham  
Type "A" Standard Luminaire  
12' Decorative Pole



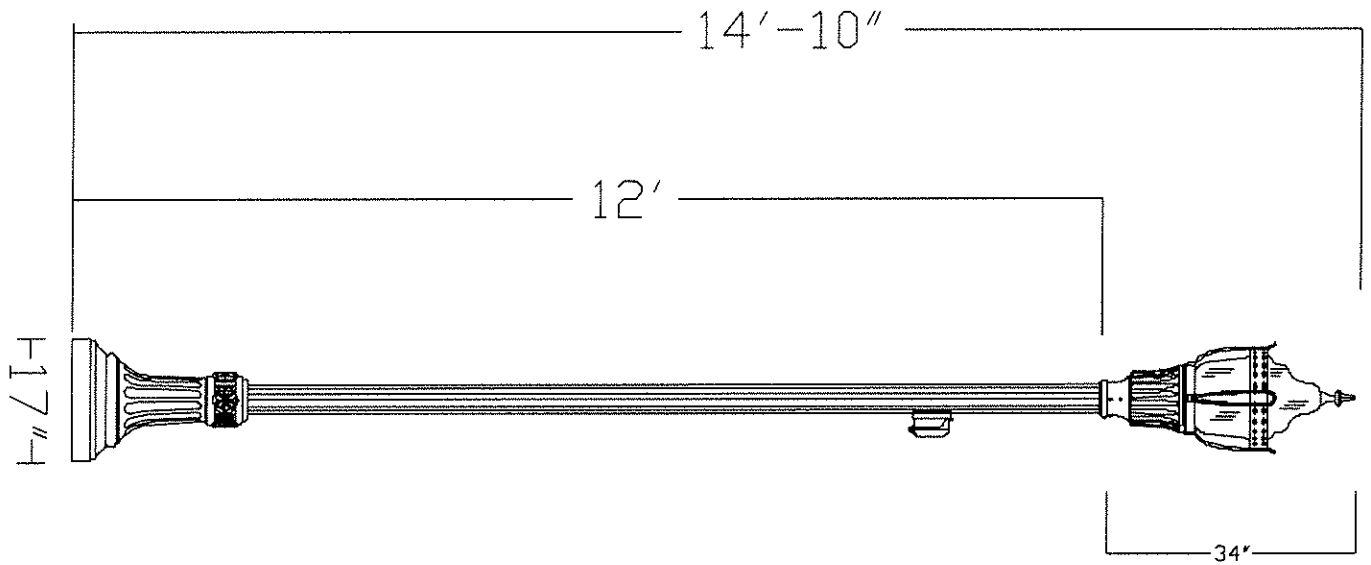
Designer  
Scott Curtis

Date  
April 7 2015

Scale

Drawing No.

1 of 11



Type "A" Standard Luminaire  
with Ribs & Band  
12' Pole

City of Birmingham  
Type "A" Standard Luminaire  
with Ribs & Bands  
12' Decorative Pole



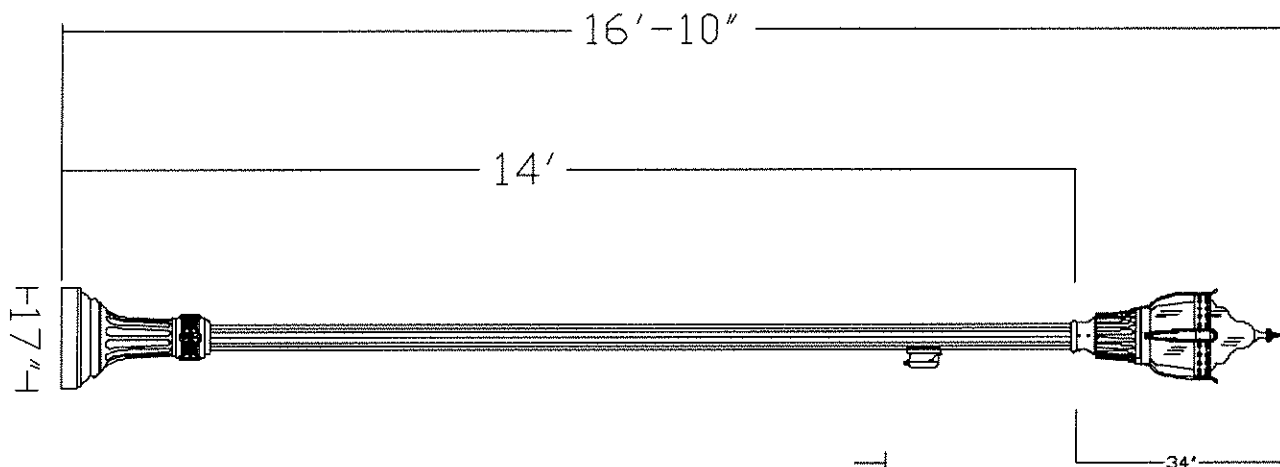
Designer  
Scott Curtis

Date  
April 7 2015

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Drawing No.

12 of 12



Type "A" Standard Luminaire  
with Ribs & Band  
14' Pole

City of Birmingham  
Type "A" Standard Luminaire  
with Ribs & Bands  
14' Decorative Pole



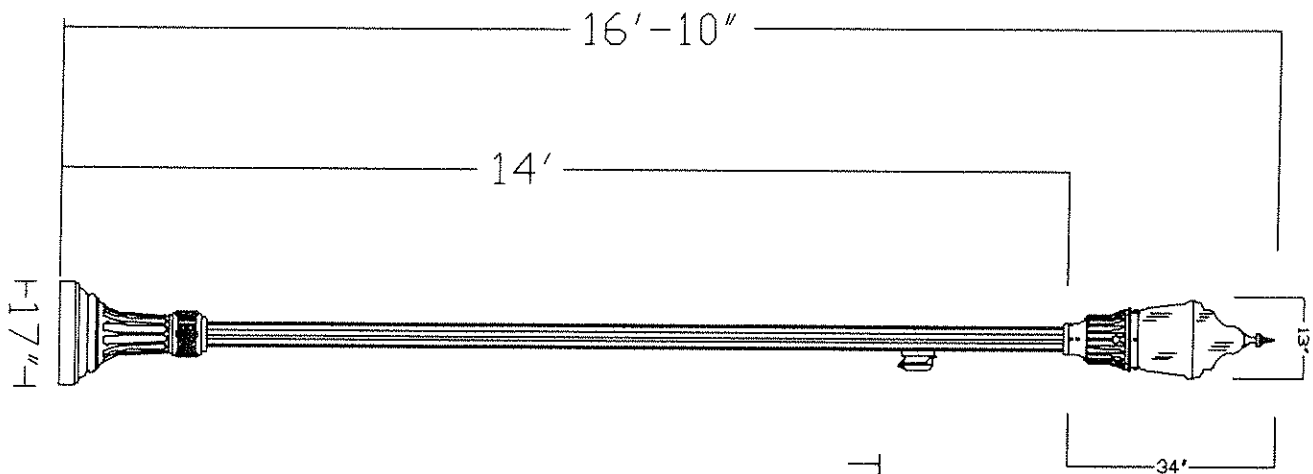
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Scott Curtis

**Date**  
April 7 2015

**Scale**

**Drawing No.**

13 of 13



Type "A" Standard Luminaire  
14' Pole

City of Birmingham  
Type "A" Standard Luminaire  
14' Decorative Pole



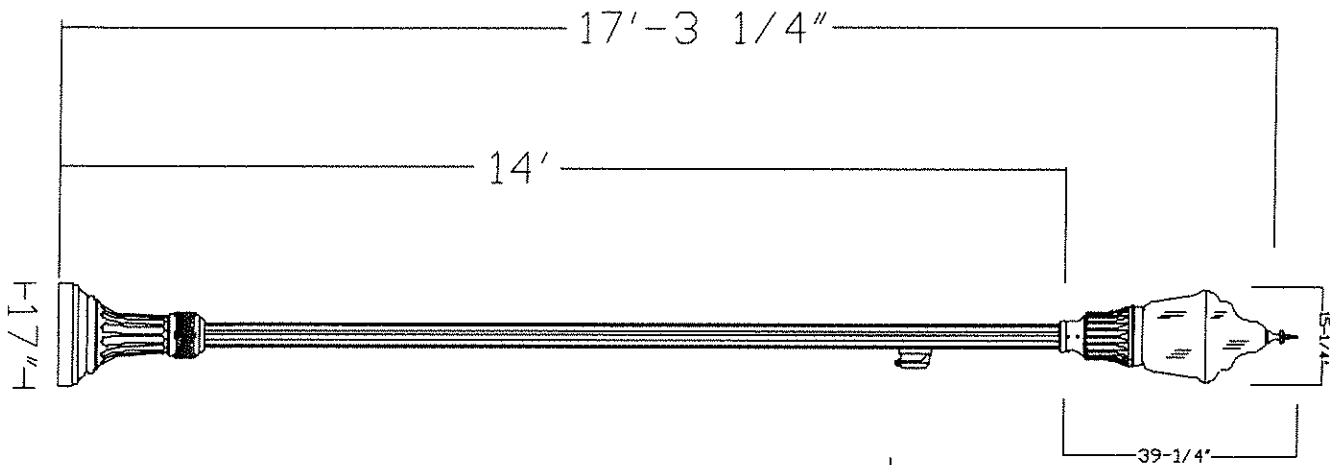
Designer  
Scott Curtis

Date  
April 7 2015

Scale

Drawing No.

2 of 11



Type "A" Large Luminaire  
14' Pole

City of Birmingham  
Type "A" Large Luminaire  
14' Decorative Pole



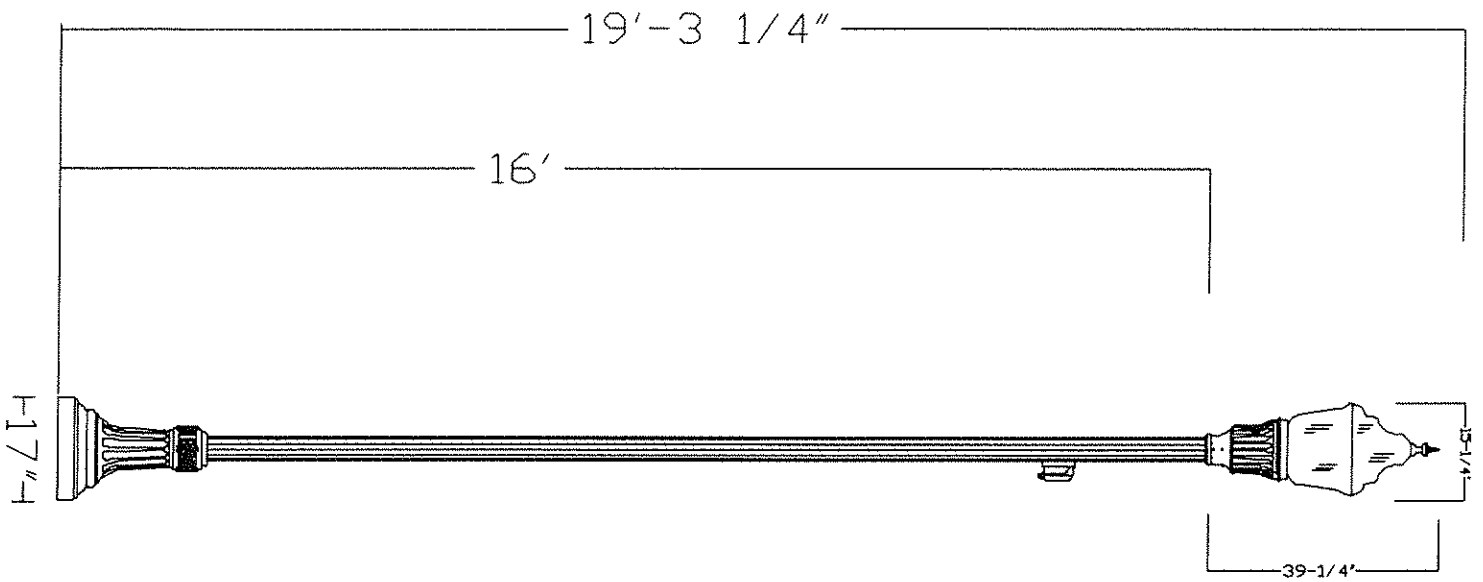
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Scott Curtis

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April 7 2015

Scale

Drawing No.

3 of 11



Type "A" Large Luminaire  
16' Pole

City of Birmingham  
Type "A" Large Luminaire  
16' Decorative Pole



Designer  
Scott Curtis

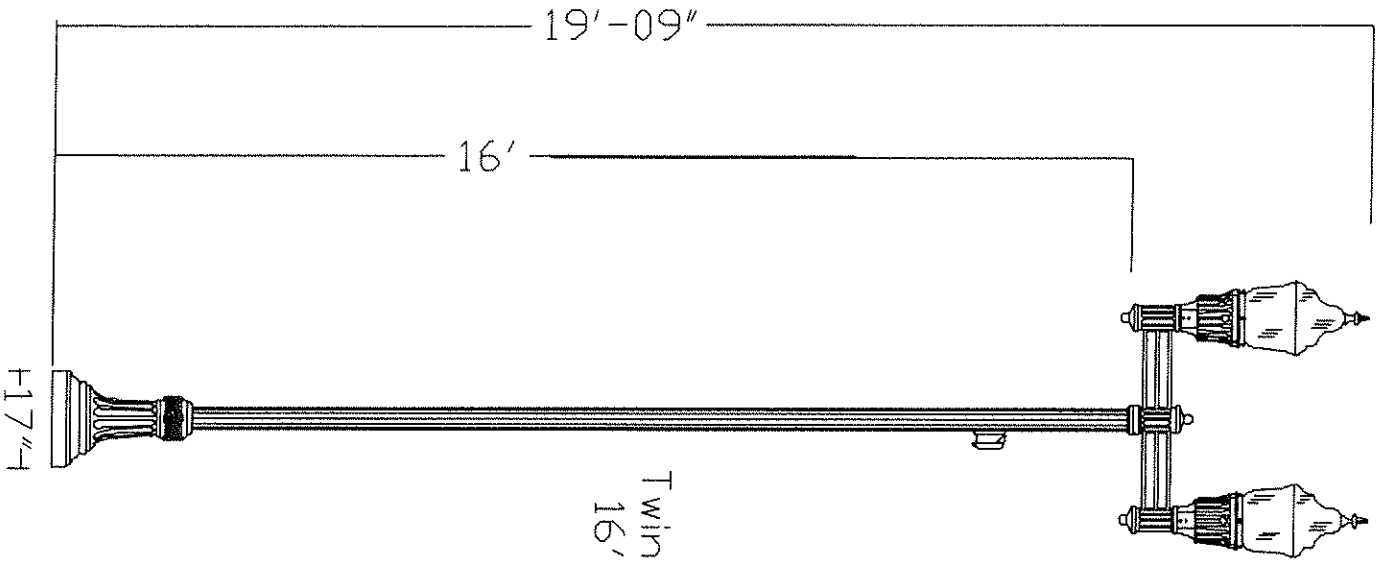
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Drawing No.

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Twin Type "A" Standard Luminaire  
16' Pole/ Decorative Crossarm

City of Birmingham  
Twin Type "A" Standard Luminaire  
16' Decorative Pole  
Decorative Crossarm



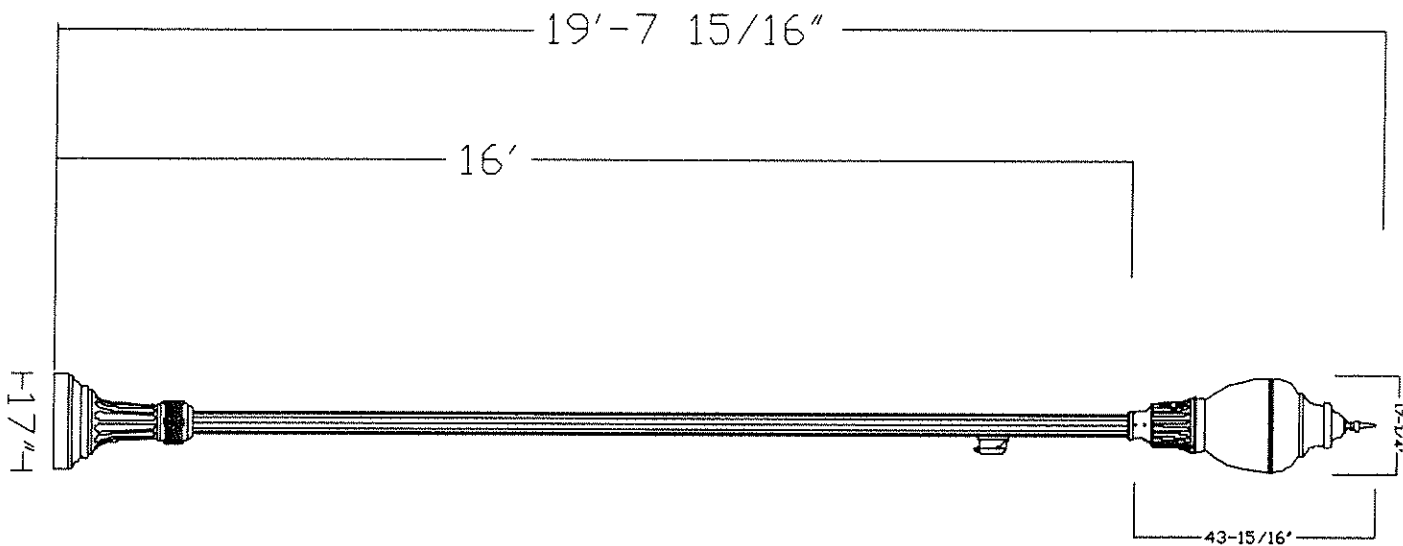
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Scott Curtis

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Drawing No.

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Type "B" Luminaire  
16' Pole

City of Birmingham

Type "B" Luminaire  
16' Decorative Pole



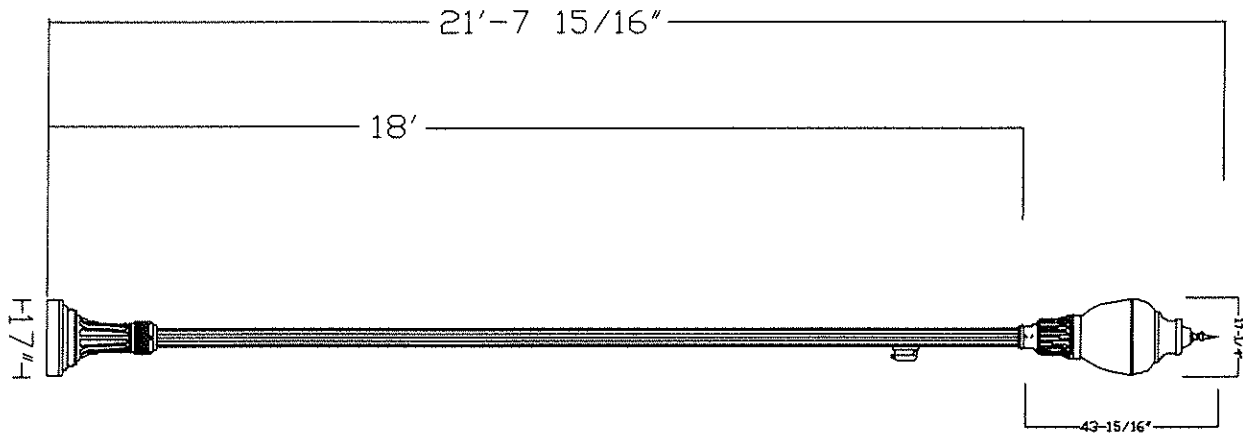
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Scott Curtis

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Drawing No.

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Type "B" Luminaire  
18' Pole

City of Birmingham

Type "B" Luminaire  
18' Decorative Pole



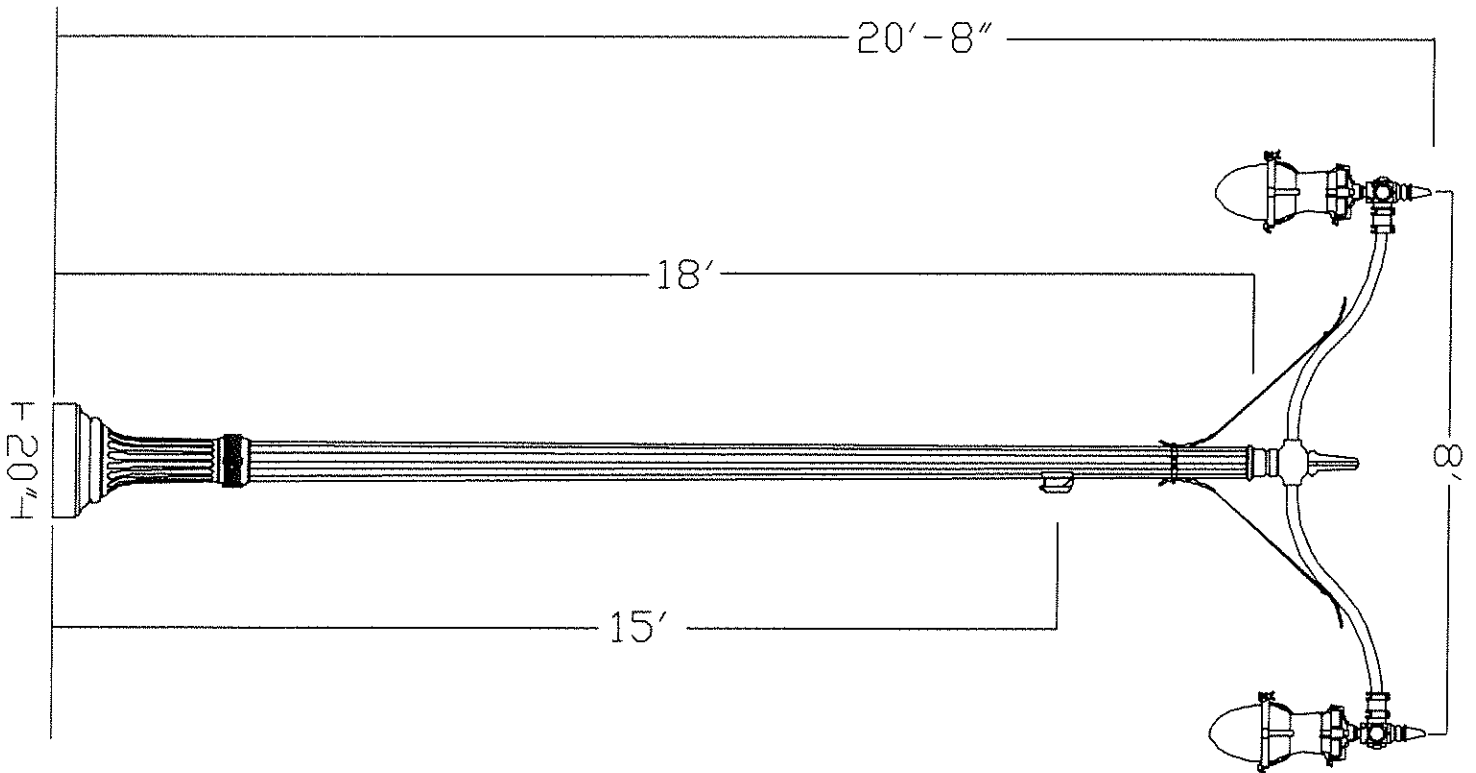
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Scott Curtis

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Drawing No.

6 of 11



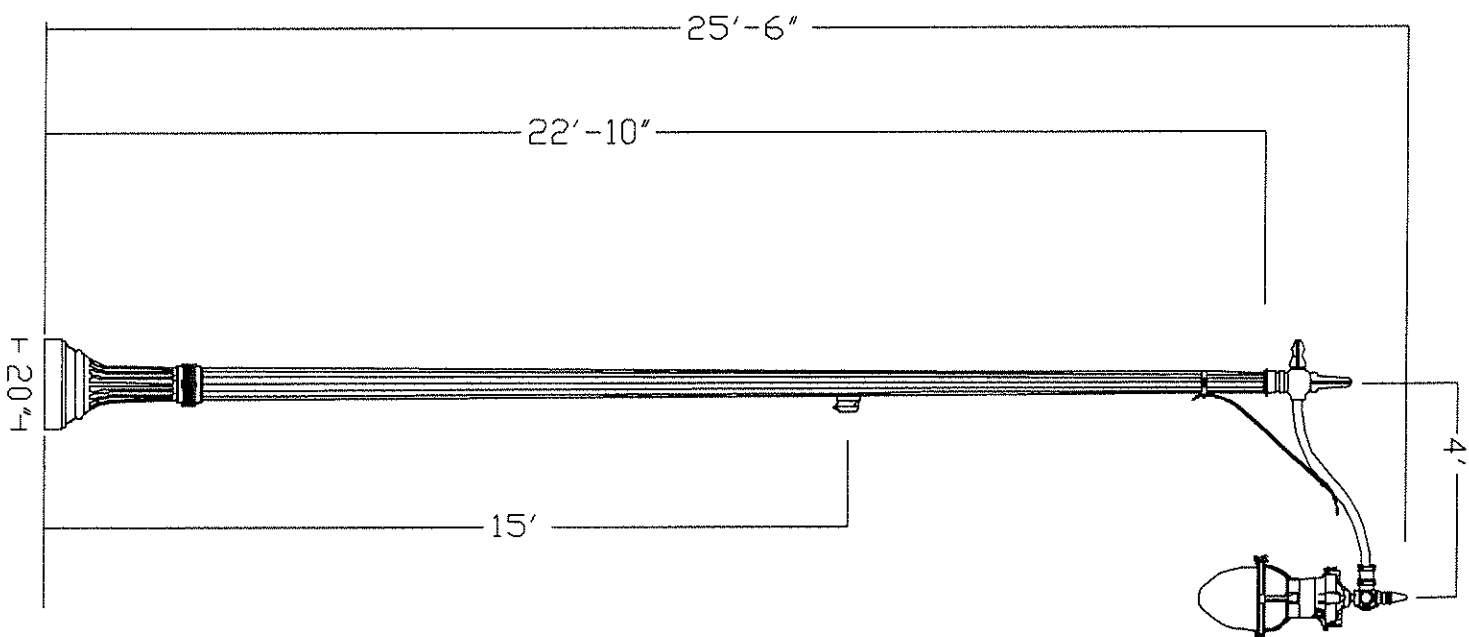
City of Birmingham  
 18' CIS Decorative Pole  
 8' Twin Decorative Arm  
 Two Roadway Teardrop Fixtures



Designer  
 Scott Curtis  
 Date  
 Jul 16 2015  
 Scale

Drawing No.

7 of 8

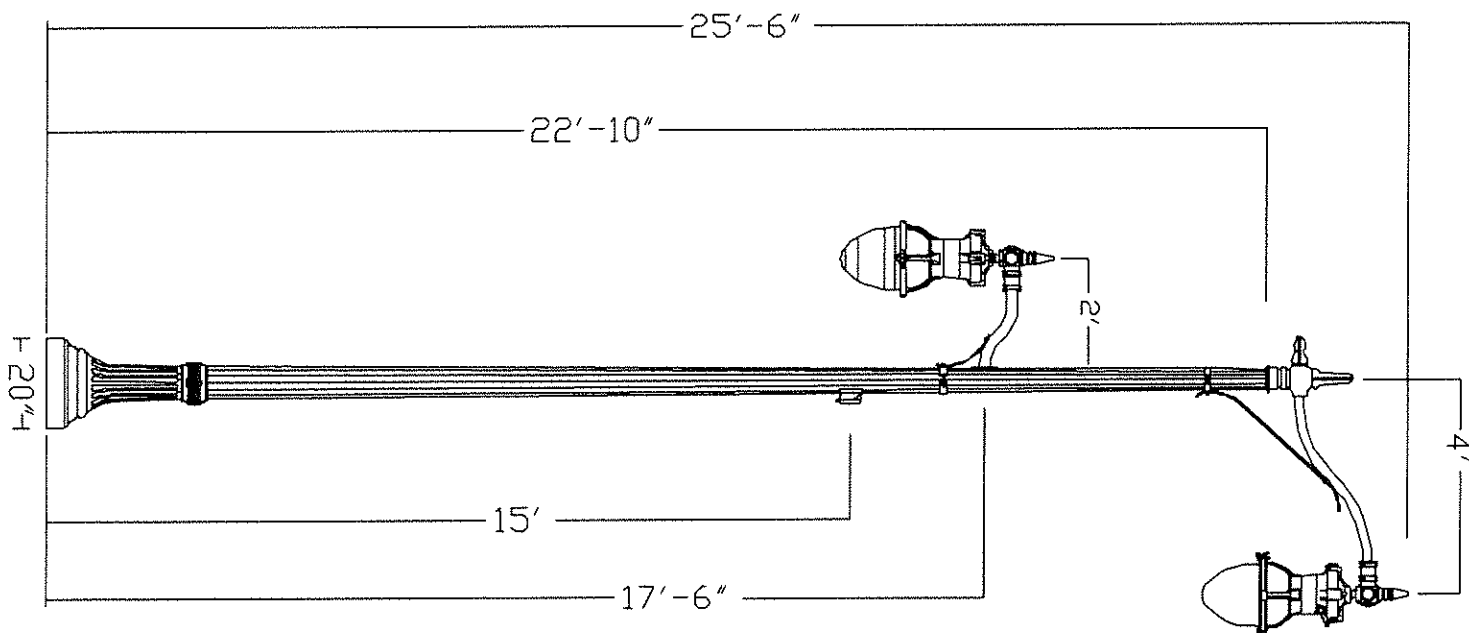


City of Birmingham  
 23' CIS Decorative Pole  
 Roadway Teardrop Fixture/4' Arm



10 of 10

Designer  
 Scott Curtis  
 Date  
 Jul 16 2015  
 Scale  
 Drawing No.



City of Birmingham  
 23' CIS Decorative Pole  
 Roadway Teardrop Fixture/4' Arm  
 Pedestrian Teardrop Fixture/2' Arm



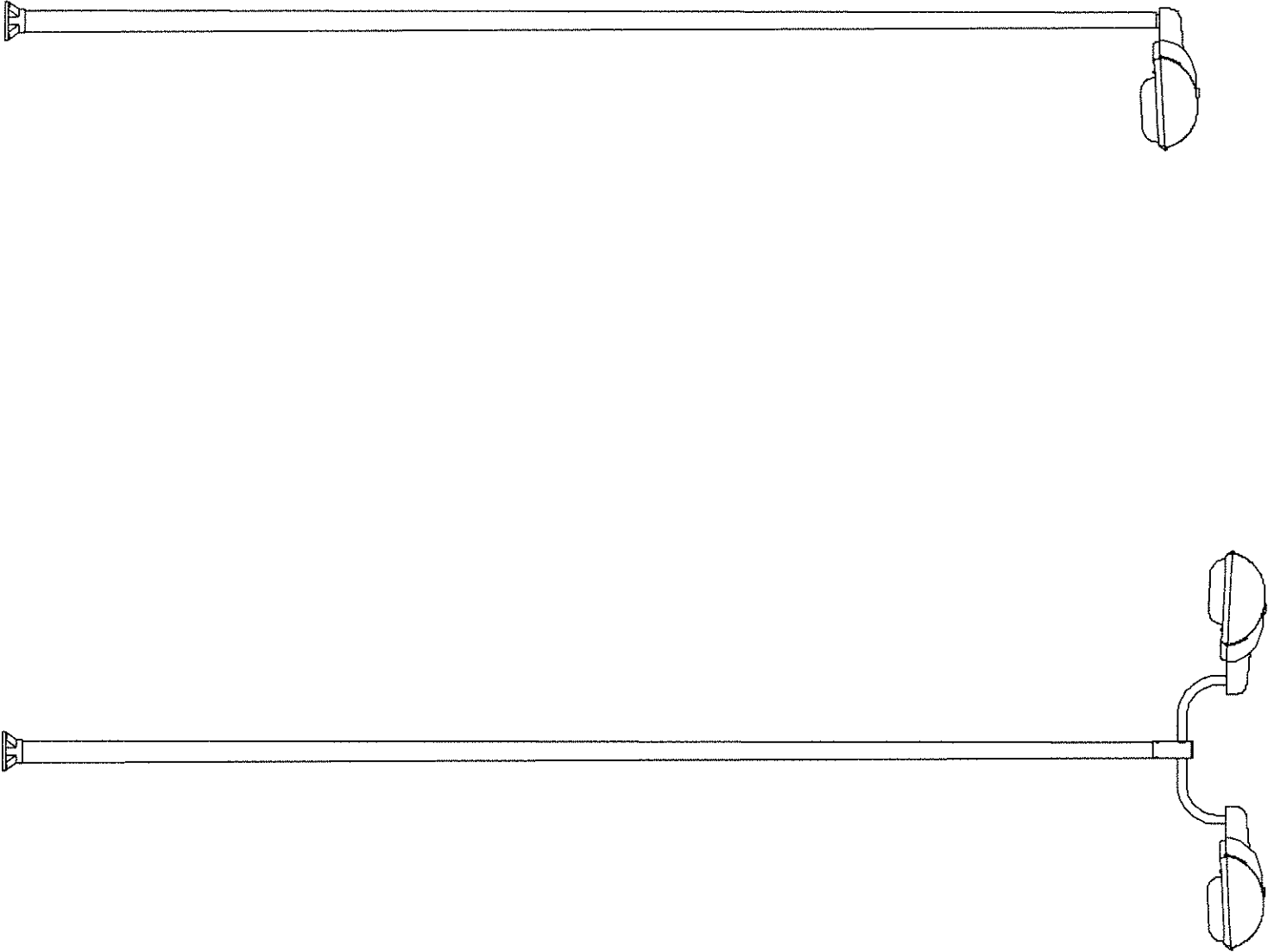
8 of 8

Drawing No.

Scale

Date  
 Jul 16 2015

Designer  
 Scott Curtis



City of Birmingham  
I-20/I-59 Roadway Luminaires



Designer  
Scott Curtis

Date  
Feb 21 2016

Scale

Drawing No.

1 of 1

## BID FORM

W. E. Caffee  
Assistant Purchasing Agent  
Birmingham, Alabama

Submitted below is my firm bid for roadway lighting items, decorative street lighting poles, and miscellaneous parts for the City of Birmingham, in accordance with your invitation to bid and specifications dated March 9, 2016. Prices quoted are f.o.b. Birmingham, Alabama delivered and I am bidding in accordance with specification except as listed below.

### Roadway Lighting

Description	Make/Model	Unit Price
<b>Advance</b>		
Ballast (150W, multi-tap, HPS) 71A8172-001D		
<b>American Electric</b>		
Offset Luminaire 400W, HPS, 480V 77606642B000MG2 775 Series Interstate II		
Offset Luminaire 400W, HPS, 480V, with 120/208/240/277 Multi Tap 775 Series Interstate II		
Offset Luminaire 250 W, HPS, 480V, 7760632B000MG2 775 Series Interstate II		
Offset Luminaire 250 W, HPS, 480V, with 120/208/240/277 Multi Tap 775 Series Interstate II		
Offset Luminaire 400W, Metal Halide, 480V 775 Series Interstate II		
Offset Luminaire 400W, Metal Halide, 480V with 120/208/240/277 Multi Tap 775 Series Interstate II		
Offset Luminaire 250W, Metal Halide, 480V 775 Series Interstate II		
Offset Luminaire 250W, Metal Halide, 480V with 120/208/240/277 Multi Tap 775 Series Interstate II		
Cobra Head (480V, 250W HPS), 115 255 CA MT 1 R3 DG 48 NR		
Cobra Head (480V, 250W HPS), 315 25s ca 480 R3 DG 48 NR		
Cobra Head (400W, 480V HPS wo/pe) 326-06643		
Cobra Head (400W, 480V HPS w/pe) 326-05643		
Cobra Head (400W, multi-tap MH) 125 40M Ca MT1 R3 DG		
Cobra Head (400W, multi-tap HPS) 125 40S CA MT 1 R3 DG		
Cobra Head (1000W, 480V MH) 327-04693		
Cobra Head (1000W, Multi-tap, HPS) 327-X1S CA MT 1 R3 DG		
Cobra Head, Cutoff Style, Series 325, 400 W, HPS, 480V		
Cobra Head, Cutoff Style, Series 325, 400W, Metal Halide, 120V		
Cobra Head, Cutoff Style, Series 325, 400W, Metal Halide, 480V		



**BID FORM**

<b>Description</b>	<b>Make/Model</b>	<b>Unit Price</b>
<b>Antique Street Lamps</b>		
Acorn Glove, 16" Wide – 37" Height C14/17-C1-WAZ5F LBR-BKPC-F1 S/150/240 8" Neck		
<b>Cobra Head</b>		
400W 480V HPS		
400W 120V HPS		
250W 480V HPS		
250W 120V HPS		
1000W 480V HPS		
1000W 120V HPS		
400W MH, 120V		
1000W MH, 480V		
<b>Cooper Lighting</b>		
Cobra Head 1000W, 480V HPS		
<b>Crouse-Hinds</b>		
400W HPS/480V DE PE Bronze Finish RCL405C83D		
<b>DECO</b>		
Decorative outdoor luminaire, 20" diameter, 250W, 120V, super metal halide, Type V Optics, #1 mounting, gray, wired single fuse, lamp included D813-20-250-2-SMH-T5-1-GY-WSF-LP		
Decorative outdoor luminaire, 20" diameter, 250W, 240V, super metal halide, Type V Optics, #1 mounting, gray, wired single fuse, lamp included D813-20-250-4-SMH-T5-1-GY-WSF-LP		
<b>Gardco Lighting</b>		
Single Head H1911-480-400-HPS-BLA		
Double Head H1821-480-400-HPS-BLA		
<b>General Electric</b>		
Uniglow Luminaire, 400W, HPS 120V		
Large Ballast Assembly for Uniglow Luminaire P/N UGL01S5A5A		
Optical Assembly for Uniglow Luminaire 22 Inch		
<b>HADCO</b>		
150W HPS/Blk, w/S-55 Lamp 240V, w/o PE Socket VS-02-A-T-F-N-V-G 02 Series		
Decorative Acorn 02 Series VS-02-A-T-F-N-U-G 02 Series		
02 Series HPS (150W 240V) VS-02-A-T-F-N-U-G		

**BID FORM**

Description	Make/Model	Unit Price
<b>Holophane Luminaires</b>		
Architectural Outdoor Type A Standard 40W LED Post Top Luminaire, Granville II LED Classic Utility		
Architectural Outdoor Type A Standard 60W LED Post Top Luminaire, Granville II LED Classic Utility, GVD604KASMB3NSBH		
Architectural Outdoor Type A Large 60W LED Post Top Luminaire, Granville Premier LED		
Architectural Outdoor Type A Standard 60W LED Post Top Luminaire with Decorative Ribs & Band		
Architectural Outdoor Standard LED Pedestrian Espanade Teardrop 77W Luminaire		
Architectural Outdoor Type A Standard 80W LED Post Top Luminaire, Granville II Classic Utility, GVD804KASMB3NSBH		
Architectural Outdoor Type A Large 80W LED Top Post Luminaire, Granville Premier LED		
Architectural Outdoor Type B 80W LED Post Top Luminaire, Utility Washington LED		
Architectural Outdoor Type A Large 100W LED Post Top Luminaire, Granville Premier LED		
Architectural Outdoor Type B 100W LED Post Top Luminaire, Utility Washington LED		
Architectural Outdoor Espanade Standard LED Pedestrian Teardrop 115W Luminaire		
Architectural Outdoor Espanade Standard LED Roadway Teardrop 185W Luminaire		
Architectural Outdoor Espanade Standard LED Roadway Teardrop 242W Luminaire		
Offset Roadway Luminaire, 250W high pressure sodium Mongoose Low Tilt with Wide Roadway Optics and Clear Drop Glass Optic		
Offset Roadway Luminaire, 400W high pressure sodium Mongoose Low Tilt with Wide Roadway Optics and Clear Drop Glass Optic		
Infrastructure Outdoor 250W HPS equivalent LED, I-20/59, roadway luminaire, 168W with a drive current of 1050mA, LED Mongoose, 4 module, low tilt with wide roadway optics		
Infrastructure Outdoor 400W, HPS equivalent LED, I-20/59, roadway luminaire, 290W with a drive current of 1050mA, LED Mongoose, 7 module, low tilt with wide roadway optics		
LED Cobrahead 250W HPS equivalent, 138W with a drive current of 1000mA, part #ATB2 40BLEDE 10 MVOLT R3 NL		
LED Cobrahead 400W HPS equivalent, 260W with a drive current of 1300mA, part #ATB2 60BLEDE 13 MVOLT R3 NL		
LED Cobrahead 1000W HPS equivalent, 274W with a drive current of 1000mA, part #ATB2 80BLEDE 10 MVOLT R3 NL		

**BID FORM**

Description	Make/Model	Unit Price
<b>Holophane/Unique Solutions</b>		
Vector, 400W, HPS, 480V		
Vector, 400W, MH, 480V		
Granville VAC 15AHP24B3T		
Granville, 175W, Metal Halide, 120V GV1A175MHM7FB58, GV1A73B		
Esplanade 400W MH, 120V, w/o PE		
Esplanade 175W MH, 120V, w/o PE ESP 175MH 12 B 4		
Predator, 400W, HPS, 480V, w/o PE		
Wall Pack, 250W, Mercury Vapor, 480V, w/o PE		
Utility Acorn w/slide out Ballast 150W HPS/120V BLK /Ribs/Bands/Finial 15AP-12-B-S-T		
Parkpak, 175W, MH, 120V PK175MH12CKS		
Banton 2000 Enduralume Glass Bottom, 175W MH 480V		
Decorative Acorn 1OU, Granville, 175 MH, 120V, w/Bands & Ribs		
Pechina, 400W, MH, 120V		
Jefferson, Asymmetric Glass, 17W, MH, Black		
<b>King Luminaire</b>		
HPS, 150W, 120V K56-S-R-EAO-111-150HPS- 120-6-B		
<b>Luminaires – Louis Poulsen</b>		
Albertslund Maxi Post Luminaire, 150W Metal Halide, 120-277V, F-Can ballast with T-RSA-4.5” transition to post, (1) 150W/PSMH/ED-28, surge protector, DIM 0-10V		
Albertslund Maxi Post Luminaire, 112W LED/4000K upper and lower, (2) electronic dimmable driver for 120-277V operation, DIM 0- 10V, surge protector, electrical power pack provided with luminaire for installation in T-RSA 4.5” poles with 4.25” ID		
<b>LSI</b>		
Hilton, 100W, HPS HIL-5-1000-HPS-CT-BL		
Hilton-Decorative LSI HIL-5-1000-HPS-CT-480V BLK-FD1		
<b>Quality Lighting</b>		
Segmented Reflector Luminaires 250W, HPS 480V 123-25-VS-HPS-250-VCDB 480V-BTR		

**BID FORM**

Description	Make/Model	Unit Price
Segmented Reflector Luminaires 250W, HPS 480V w/120/208/240/277 Multi-tap		
Segmented Reflector Luminaires 150W, HPS, 480V 124-23-VS-HPS-150-VCDB 480V-BTR		
Segmented Reflector Luminaires 150W, HPS, 480V w/120/208/240/277 Multi-tap		
Segmented Reflector Luminaires 250W, Metal Halide, 480V		
Segmented Reflector Luminaires 250W, Metal Halide, 480V, w/120/208/240 Multi tap		
Segmented Reflector Luminaires 175W, Metal Halide 480V		
Segmented Reflector Luminaires 175W, Metal Halide 480V, w/120/208/240/277 Multi-tap		
<b>Miscellaneous Parts/Accessories</b>		
F-CAN Ballast for Louis Poulsen Albertslund Maxi Post Luminaire, 120-277V 150W Metal halide lamp, Advance 72C5482-NP-900		
Lamp for Louis Poulsen Albertslund Maxi Post Luminaire, 150W/PSMH/ED-17 (and/or 28) M-102/M-142, base clear lamp, 120-277V		
Lamp for Louis Poulsen Alberslund Maxi Post Luminaire, 48W LED, CCT3000K and/or 4000K, 112W system power consumption, 120-277V		
Lamp for DECO #D813 Luminaire, 250W, 120V, super metal halide.		
Lamp for DECO #D813 Luminaire, 250W, 240V, super metal halide		
Electrical power pack for use in T-RSA 4.5" pole with 4.25" ID with Louis Poulsen Albertslund Maxi Post Luminaire		
Surge protector with 100,000A current rating for use with Louis Poulsen Albertslund Maxi Post 48W, 120-277V luminaire		
High mass breaker, GE THED124030WL industrial circuit		
High mass contactor, GECCR460XP32 power block, 2 pole		
High mass coil, GECCR463L20AJA-EL-HLDLGT2NO 120V open		
Breakaway Transformer Base TB2-17, Akron Foundry Company		
Breakaway Transformer Base TB2-20, Akron Foundry Company		
<b>Moldcast</b>		
45122-24-BLP-2FU		
73222 240 Volt		
LEC #RAL-400		
45122-240 BZ2FX 150 W HPS/240V		

**BID FORM**

<b>Description</b>	<b>Make/Model</b>	<b>Unit Price</b>
72123-24-BZ-1F 240W/HPS/240V		
<b>DECO</b>		
DECO Mounting arm AA-14 for D813 decorative outdoor luminaire		
<b>Holophane Luminaire Arms/Retrofit Kits</b>		
Retrofit Kit, Type "A" Standard 40 Watt Post Top		
Retrofit Kit, Type "A" Standard 60 Watt Post Top		
Retrofit Kit, Type "A" Standard 80 Watt Post Top		
Decorative Ribs & Band Kit Type A Standard 80 Watt Post Top		
Single decorative luminaire arm for Roadway Teardrop luminaire, Boston Harbour 48" decorative arm		
Double decorative luminaire arm for Roadway Teardrop luminaire, Boston Harbour with 96" span from end to end		
Decorative luminaire arm for Pedestrian Teardrop luminaire, Boston harbor 24" decorative pedestrian arm		
Standard decorative arm fitter, West Liberty style for use with 1½ NPT top mounting luminaire		
Standard decorative arm fitter, West Liberty style for use with Quik Lock Stem mounting luminaires		
Architectural Outdoor Postop crossarm, twin design to accommodate two (2) luminaires, 36" centers, Philadelphia 36", PCP36CABKH		
Infrastructure roadway steel pole top twin Bullhorn, vertical arms, center to center, shall be 36"		

**Streetlighting Poles**

<b>Description</b>	<b>Make/Model</b>	<b>Unit Price</b>
<b>Ameron</b>		
VEF Series, Birmingham, AL Brown, concrete, 13' anchor base, terrazzo SBO-4		
Concrete 16' 4" direct burial terrazzo SEO		
<b>Antique Lighting</b>		
Fluted cast iron, tapered, black 12' NY-13C/20-CA/BK North Yorkshire		
<b>Architectural Area Lighting</b>		
Non-tapered base cover with template, 14', duranodic bronze, A4R14-125		
<b>Centrecon</b>		

**BID FORM**

Concrete, "S" Series, 18' direct burial SEO-4.3		
<b>Cooper</b>		
Non tapered square-dark bronze 35' SS6M35SFM (2)		
<b>Hadco Lighting</b>		
4" with 3" O.D. tenon wall thickness. 125-black 14', P-2070		
<b>Holophane Lighting</b>		
North Yorkshire with GFI recept @ 15" Black-23' NY23/20-CIS/BK-RS/GFI/W PC		
<b>Description</b>	<b>Make/Model</b>	<b>Unit Price</b>
<b>Holophane Poles</b>		
12ft cast aluminum decorative pole, 12ft North Yorkshire cast aluminum pole		
14ft cast aluminum decorative pole, 14ft North Yorkshire cast aluminum pole		
16ft cast aluminum decorative pole, 16ft North Yorkshire cast aluminum pole		
18ft cast iron and steel decorative pole, 18ft North Yorkshire cast iron and steel pole, 17" diameter base for Post Top luminaires		
18ft cast iron and steel decorative pole, 18ft North Yorkshire cast iron and steel, 20" diameter base for Teardrop luminaires		
23ft cast iron and steel decorative pole, 23ft North Yorkshire cast iron and steel, 20" diameter base for Teardrop luminaires		
25ft, round tapered steel, base pole #RTS2559B		
30ft, round tapered steel, base pole #RTS3066B		
35ft, round tapered steel, base pole #RTS3573B		
39ft, round tapered steel, base pole #RTS3978B		
45ft, round tapered steel, base pole #RTS4510B		
50ft, round tapered steel, base pole #RTS5010B		
<b>Louis Poulsen</b>		
14ft, 4.5" O.D x 1/8" wall extruded aluminum tube alloy No. 6061-T6 with grey powder coated finish for use with Albertslund Maxi Post luminaire, peripherally reinforced hand hole, with ground lug and cover		

**BID FORM**

<b>Shakespeare</b>		
Fiberglass anchor base 35', BH35-01 01NIB		
Fiberglass post top 12', AM 1712FF11		
Fiberglass, Direct burial, black 47', BCW-47-99N1-CK-45-01		
<b>Stress Crete</b>		
Concrete, direct burial 18' E-1-80-ALPO-G-TE21 Tenon 3" ocbs salt & pepper 18'		
<b>Description</b>	<b>Make/Model</b>	<b>Unit Price</b>
<b>Union Metal</b>		
Steel Upright 12', 807-Y3		
<b>Western Lighting</b>		
Old Town Series, 12' aluminum, 01T12CFTP		
<b>WJM</b>		
20ft round straight aluminum, 6" base diameter, 0.156" wall thickness, open top, with base cover, gray RA600G920-GY-OT-BC		

## BID FORM

I hereby certify that we do not discriminate in employment of our personnel against any persons on account of race, creed, color, sex, or national origins, and acknowledge and agree that the City encourages minority and women-owned business participation to the maximum extent possible. This policy includes Historically Underutilized Business Enterprises such as architectural firms, engineering firms, investment banking firms, other professional service providers, and construction contractors as part of the City's business, economic and community revitalization programs.

### **EXCEPTIONS TO SPECIFICATION: (use extra pages if necessary)**

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Bidder acknowledges receipt of \_\_\_\_\_ addenda. **This page must be returned with bid.**  
(addenda numbers)

\_\_\_\_\_  
Date of Bid

\_\_\_\_\_  
Name (Print legibly or Type)

\_\_\_\_\_  
Company

\_\_\_\_\_  
Title

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Signature

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
Tax ID Number

\_\_\_\_\_  
Post Office Box (Zip if different from street address)

\_\_\_\_\_  
E-Mail Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Terms of Payment

\_\_\_\_\_  
Fax Number

\_\_\_\_\_  
Delivery Date

\_\_\_\_\_  
Website

**IF AVAILABLE PLEASE SUBMIT COPY OF CURRENT CITY OF BIRMINGHAM BUSINESS LICENSE WITH THIS BID.**

**INDICATE THE FOLLOWING ADDRESSES IF DIFFERENT FROM ABOVE:**

1. **BID AWARD NOTICE ADDRESS**
2. **PURCHASE ORDER ADDRESS**
3. **REMITTANCE ADDRESS (and NAME if different than above)**